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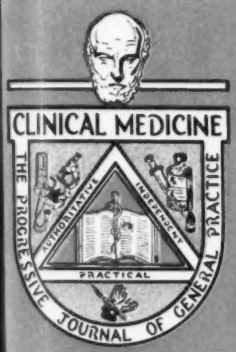

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VOLUME 48 NUMBER 11

Selecting the proper surgical antiseptic may well mean the difference between postoperative infection and uneventful recovery. Fortunately, this decision can be based on fact rather than opinion. Two independent investigators* have made an impartial study of fifteen leading antiseptics and have fully reported their findings and conclusions. *Tincture Metaphen was designated "the most effective agent."* On the oral mucosa, Tincture Metaphen 1:200 was found to reduce bacterial count 95 to 100% within five minutes; to cause only a slight irritation in some cases, none in the others; and to have in substantial excess over any other antiseptic tested a duration of action of two hours. Tincture Metaphen is supplied in 1-ounce, 4-ounce, 16-ounce and 1-gallon bottles through pharmacies everywhere. Abbott Laboratories, North Chicago, Ill.

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*Meyer, E., and Arnold, L. (1938), *Amer. J. Digest. Dis.*, 5:418

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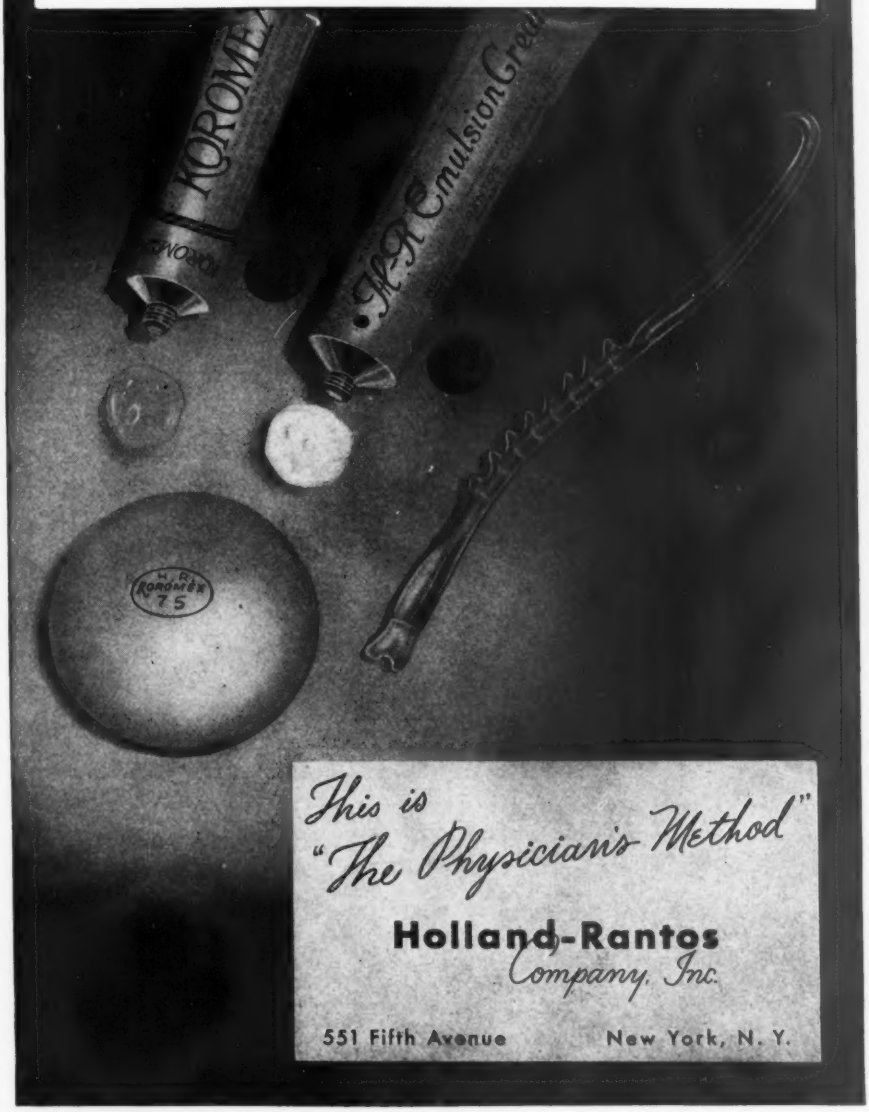

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Volume 48 ★ Number 11
NOVEMBER, 1941

Clinical Medicine

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★ Editorial ★

Rear Admiral Ross T. McIntire

Surgeon General, U. S. Navy

ROSS T. McINTIRE, the twenty-third Surgeon General of the U. S. Navy, is the first man to hold that office who was born west of the Rocky Mountains (at Salem, Oregon, August 11, 1889), and was appointed to that important post on December 1, 1938, when he was 49 years old.

He was educated in the public and high schools of his native city (the capital of the state) and in the Medical School at Willamette University (now connected with the University of Oregon), from which he received his Doctorate in Medicine in 1912.

At the beginning of World War I (on April 4, 1917) he was commissioned an Assistant Surgeon (Lieutenant, Junior Grade) in the Navy, and immediately entered upon a short post-graduate course in Naval Medicine. From July 22, 1917, to January, 1920, Dr. McIntire served at sea, on board the U. S. S. Orleans, and holds the Victory Medal with Escort Clasp.

Following this he was on duty at the Naval Hospital, Canacao, Philippine Islands, for a short while, also at the Naval Medical School, Washington, D. C., for a year, from which he was transferred to the Naval Hospital, San Diego, California as head of the eye, ear, nose, and throat department. He has also served two tours of duty at sea, in the same capacity, on the hospital ship, U. S. S. Relief.

In 1931 he returned to the Naval Hospital, Washington, D. C., and to additional duty as instructor in Ophthalmology and Otolaryngology at the Naval Medical School. Two years later he was assigned to temporary additional duty as physician at the White House.

On February 13, 1935, Dr. McIntire was appointed the regular physician at the White House, and accompanies the President on his official journeys, at sea and ashore. These duties he continues, in addition to the heavy responsibilities of the Surgeon General of the Navy, which include the supervision of the enlisted medical personnel of the Navy, the building of new Naval hospitals and the expansion of those now functioning, and carrying on research in various branches of Naval Medicine, in order to keep abreast of the new developments resulting from the present war.

All who are practicing the "head specialties" will be especially interested in the high honors that have been accorded to this distinguished ophthalmologist and otolaryngologist, and all who have relatives or friends in the Navy will be glad to become better acquainted with the man who is responsible for their physical welfare.

Audiometry

Relatively few physicians, except specializing ophthalmologists (and by no means all of those), are, today, fitting lenses for their patients whose vision is defective. Most of the spectacles are now fitted by optometrists, who have qualified themselves for this work by a specified course of study, have received the title, Doctor of Optics, and have been officially licensed to practice their profession, just as physicians are.

There are even fewer members of the medical profession who are qualified or equipped to test the hearing of their patients in a scientific manner, or even to give intelligent advice to the partially deaf ones who are planning to buy a hearing aid, as many of them are now doing. This highly important matter is now almost exclusively in the hands of the salesmen hired by the manufacturers of these aids, few of whom have been adequately trained in the anatomy and physiology of the auditory apparatus and in the principles of acoustics, and all of whom are, quite naturally, primarily interested in having the patient buy the type of aid they are selling.

In the *New York State Journal of Medicine* for February 15, 1941, Drs. T. H. Halsted and F. M. Grossman declared: "The fitting of hard-of-hearing patients can be properly done only by specially trained persons. Acoumetrists should be trained and licensed, just as optometrists are."

So far, to the best of our knowledge, no state has passed a law to this effect, but steps are being taken to secure the passage of such laws.

In the *Volta Review* for June, 1941, Mr. Ralph Crutchett presented a tentative model audiometry law, which could be used, as it is or modified in any way that seemed advisable, by any state that desires to pass such a law, and remarked that there are now enough hearing aid salesmen in several states to make such a law worth while, and if these states would adopt a uniform law, others would probably follow suit. He further proposed that the profession of fitting hearing aids be known as *audiometry,* and that its practitioners be called *audiometrists,* to correspond with the words of similar import used by spectacle fitters.

In the July, 1941, issue of the *Volta Review,* an outline of a proposed two-year course of study in audiometry was published, including courses in physics, communication engineering, vacuum-tube amplification, the testing and use of the audiometer, psychology, the mechanism of hearing, phonetics, and other subjects.

This entire discussion appears to open a field of valuable and profitable activity which has never been cultivated, to intelligent and ambitious young men, and should receive a hearty response from physicians, who would thus be assured of the assistance of a new group of auxiliaries in their constant efforts to give their patients the best possible service.

Those who are interested in this subject would do well to write to *The Volta Review,* 1537 35th St., N. W., Washington, D. C., asking for copies of the June, July, and August, 1941, issues of their publication and mentioning this editorial.

All art implies a mastery of technic; in other words, discipline, else it is not art.—Mary J. J. Wrinn.

A Thankful Heart

It was a wise custom which the fathers of our Country established—that of setting aside a day to be spent in the giving of thanks for the blessings bestowed upon them.

As we look back to those early days, it seems as though they had little for which to be thankful. They lived in cabins made of logs which they had hewed from the virgin forest with incalculable toil; they were in constant danger from hostile Indians and other enemies; they were in a strange, wild land and as far removed from their neighbors living at a distance of ten miles as we are from people a hundred or two miles away; they had no news of the world nor any recreations save church-going and funerals; all household tasks were matters of heavy personal labor; they were hot in summer and cold in winter; and if they fell ill there was, as a rule, no one to minister to their needs.

But, on the other hand, their cabins and the hand-wrought furniture in them were *their own;* the ever-present dangers did not always strike, and were steadily growing less imminent; their very isolation strengthened the ties of family love and of helpfulness toward their immediate neighbors; their church-going was such as they elected —not a ritual which was forced upon them; they experienced a joy in *personal accomplishment* which few of us now know; heat and cold and other inconveniences were a small price to pay for *freedom* and the excitement of seeing their crops ripen and the wilderness change into farms; and because of their wholesome life they were rarely ill, and when sickness came the neighbors rejoiced in the opportunity for personal service.

And so they were glad, and gave thanks!

If we would do a little more looking back to the America of our grandparents, a good deal more real, patriotic striving to save the freedoms they worked and fought for, and a little less fruitless fault-finding with present conditions; if we would turn our attention more inside, to our own hearts, and less outside, to the things our neighbors may say about us, we might find more cause for sincere thanksgiving, now and in the future.

We are living in the most difficult and dangerous period our country has ever known. Our leaders have betrayed us; our substance is being squandered riotously; a shocking tax load is upon our shoulders, and will become far worse; the very foundations of what we have known as civilized living seem to be tottering and all public confidence is gone.

But men and women still love and are loved; there is still *some* humane and constructive work to be done and chances for men and women to show their courage, intelligence, and independence; there are still old, time-tried, and inspiring

books to be read (and a few new ones) and music and pictures to be enjoyed; the squirrels and chipmunks are still thrifty; the sun and the stars still shine; and the grand old Law of Evolution (progress) can *not* be thrown into the discard, along with certain man-made "laws" that we have considered almost equally dependable. The world *will* awake from its drunken frenzy and go on to higher and better things—for which rare *certainty* we should give thanks.

And deep down within us, and close around us, there are multitudes of intimate and personal blessings of which we can not be despoiled and for which we should give heartfelt, even though unspoken, thanks.

So let us all search out those worthy matters that remain to us, meditate upon them, rather than upon the turmoils of the day, and renew our steadfast pledges to our country, our ideals and our better selves, and offer our praise and gratitude to Him, who will, one day, remanifest this glory as the Prince of *Peace*.

Little minds are tamed and subdued by misfortune; but great minds rise above it.
—Washington Irving.

NEXT MONTH

Dr. Robert Franklin Ives, of Brooklyn, N. Y., will explain the mechanism of thrombosis and embolism and outline the treatment and prevention of these conditions with Heparin.

Dr. George B. Lake, of Waukegan, Ill., will present his report of the meeting of the Mississippi Valley Medical Society.

COMING SOON

"Endocervicitis, Cervicitis, and Erosions," by William Edwin Ground, M.D., F.A.C.S., Superior, Wis.

"Vinethene Anesthesia," by Marvin L. Slate, M.D., High Point, N. Carolina.

Home Accidents

Back of most accidents lie causes that reach deep into hidden recesses of human conduct, of long-established customs, traditions, and attitudes. Physical and mental infirmities, fatigue, frayed nerves, dulled reflexes, and many other human elements also play their parts in making up the pattern of the home accident picture.

But in addition to these traits, certain agents always contribute their share to the occurrence of accident. The "unloaded" gun; the unguarded or slippery stairway; the bottle of poison left thoughtlessly where inquisitive young hands can reach it; use of kerosene or even gasoline to start or speed up fires; the broken guard rail, porch, or floor board; the use of a handy chair or box, rather than a stepladder, to reach some high object; and many other remediable circumstances contribute to the annual toll that is represented by death, misery and economic loss. Eliminate these agents of destruction in the home, and you have eliminated a great number of accidents.

Home accidents last year were responsible for 33,000 fatalities, 4,850,000 injuries, and an estimated economic loss of $600,000,000. Despite this tremendous waste, few agencies are doing anything to overcome it. One organization, however, that for a number of years has been actively seeking to reduce this terrific loss, is the American Red Cross.

The Accident Prevention Service of that organization has prepared a set of publications which call attention to the risks and hazards that are to be found particularly in the home, which describe what to do to avoid or remove these dangers, and which go into detail concerning methods of teaching safety and accident prevention. This material is available for adult and school study on request, without charge. The most practical means of obtaining it is through local Red Cross chapters, but it may be obtained from the National Headquarters, Washington, D. C.

Accident prevention work of the American Red Cross, like all other of its activities at home, is supported from yearly dues received during the annual membership Roll Call. Everyone is invited to join a local Red Cross chapter during the membership campaign which begins November 11 and continues through November 30.

THE FULL-GROWN CHILDREN*

Dim days of turmoil and wild, garish nights,
Devoid of beauty and bereft of peace,
Crowd out all worthy thoughts and lovely sights
For those frail children, striving for release
Of life, who miss the joys that do not cease.
They yearn for gaudy toys and senseless plays,
Who cannot guard their hearts and rule their ways.

G. B. L.

*From "Caravansary," Winter 1939-1940.

★ Leading Articles ★

The Injection Treatment of Pain

By

R. L. GORRELL, M.D., Clarion, Iowa

Pain is the outstanding symptom of which most patients complain, and may, in itself, be as destructive as the lesion that causes it, so that relief of pain will be truly curative. Dr. Gorrell gives some practical points for attaining this important end.

PAIN was formerly thought to be a helpful symptom, a danger sign. Now we know that pain often prolongs illness, or may exist as a disease in itself, and that the relief of pain may cure certain conditions.

"In many instances, the physician is apt to regard pain as of secondary importance. The patient has it more or less continuously, and appears quite used to it. Seeing that it is of minor importance and only slightly disturbing, little attention is paid to it by the medical man. The patient, however, thinks differently. He is quite sure that his troubles would be much less distressing if they were not accompanied constantly by abnormal sensations, spasm, feelings of constriction, and momentary sharp flashes of pain" (Leriche).

There are two approaches to the study of pain: The neurologist can map out the mechanical pathways by which it is perceived and transmitted to the brain; the clinician employs it as a valuable diagnostic aid and may correlate it with the patient.

The clinician soon realizes that pain is not a fixed element in each individual, but that it differs with each of the following variables, which are the factors that make up one's "personality":

1.—Glandular balance.
2.—Emotional control.
3.—Sympathetic nervous system activity.
4.—Dietary deficiencies (vitamin B complex, calcium, etc.).
5.—Past experiences.

That these factors are important, is evident in considering patients who complain of pain. The woman of menopausal age, who suffers severe pain after a trifling injury, may need estrogenic hormone rather than procaine injections. Patients with hyperthyroidism are unusually susceptible to pain. The patient with diminished blood calcium may suffer severe pain.

On the other hand, one finds that some injuries which *should* produce pain may not do so. In the heat of battle or a sporting contest, a severe or lacerating injury may pass unnoticed.

Before a patient is treated for a painful condition, all these factors should be briefly considered. In reviewing the case histories of 200 patients whom I have treated with procaine and Nupercaine solutions, it is evident that many times I have not done so. The resultant failures are impressive.

For example, two women were treated for painful knees. Mrs. M., aged 70, complained of chronic pain in both knees, which were enlarged and of the osteoarthritic type; moderate crepitation was felt and heard through the stethoscope. A definitely tender point was found on the internal aspect of each knee. A wheal was raised with procaine solution exactly at the tender areas and 5 cc. of Nupercaine solution injected, subcutaneously and into the ligaments. During the half-year that has followed, she has had very little pain and walks much more freely.

Mrs. O., age 52, also had painful knees of the same type, but not so far advanced. In my enthusiasm, at that time, for injection treatment, I overlooked her menopausal symptoms. The pain was entirely relieved by an injection similar to that given to Mrs. M. and other patients of this type, but recurred in 24 hours. Two more injections were given, but permanent relief was not obtained, although she was pleased with the temporary relief following each injection. Theelin or some other estrogenic preparation would probably have resulted in a permanent cure.

Physiologic Background

Sir Thomas Lewis' clinical work on pain[1] and Leriche's surgical attacks on pain-carrying nerves and the sympathetic nervous system,[2] have founded a new technic. Both men have discarded conventional physiologic beliefs when they failed to stand up under clinical investigation.

Pain can now be studied scientifically, because it can be produced under standardized conditions. Lewis found that pain results from the injection of physiologic saline solution into various structures. By injecting into skin and muscle, he was able to produce differing types of pain.

1.—*Skin pain:* The pricking of a needle into the skin results in a sharp, localized, "sticking" pain; and the same type of pain appears if saline solution is injected *rapidly* or when the skin is touched lightly with a fine, hot wire. "Burning" pain results when a *prolonged* stimulus (freezing or heat) is applied to the skin.

Abrasions, fine multiple scratches, freezing, ultraviolet irradiation, and continued friction result in the same type of pain, and the subject cannot distinguish between them, but complains merely of "burning."

2.—*"Dull" pain* arises from deeper structures. If saline solution is injected into muscle, a dull, poorly-localized, "aching" or "sickening" pain appears, resembling that found in rheumatic and

arthritic conditions, and muscle and ligament affections.

3.—*Nerve pain:* A sharp, shooting pain indicates that a definite nerve trunk is involved. Injury or pricking of a nerve may result in numbness and tingling over its area of distribution.

Technic of Injections

1.—*Finding the trigger point:* The most essential fact to be remembered is that there is a "trigger point" from which the pain arises. This point can usually be identified by palpating, in the painful area itself, around it, or between it and the spinal column, for an area which is exquisitely tender. If the patient does not *wince* when pressure is made on a point, it is probably not the one sought. If finger-tip pressure causes the patient to say, "*That* is my pain," one may confidently predict relief.

If three or four tender areas are found, mark them with a drop of colored antiseptic solution and compare them with each other. In my experience, if more than two points are found and all seem equally tender, there is no true pain center and the injection treatment will usually give little relief, unless one wishes to infiltrate the tissues with 100 to 150 cc. of dilute procaine solution. The more areas are injected, the poorer are the results; first, because a true trigger point is not present or has not been found, and second, because the repeated painful needle pricks will make the patient more susceptible to pain. In such cases, infrared radiation or diathermy and vitamin B complex therapy will make more friends.

The first few drops of procaine solution are injected directly *into* the skin (intracutaneous injection), to raise a wheal at least one-half inch in diameter. I attempted to dispense with this preliminary by inserting a fine needle directly into the affected structure, but soon found that the initial pain was almost as great and that subsequent movements of the needle produced some skin pain.

2.—*Depth of injection:* In a few cases, the intracutaneous wheal relieves all pain and tenderness. Usually, it relieves much of the *sharp* tenderness, but the dull aching tenderness on pressure remains until the deep injection is made.

One may infiltrate as the needle is gradually introduced deeper and deeper, until the patient states that all pain is relieved, until all tenderness disappears, or until a solid deep structure is reached. Do not inject directly against a bone, as the tip of the needle will be blunted by contact and the patient will be caused pain and tissue injury by the "hook."

A more accurate method is to introduce the needle through the wheal until the patient complains of pain or discomfort, or until the affected structure is reached, and then inject the procaine solution.

3.—*Types of solution used:* Procaine or Novocain solution may be injected with impunity into skin, muscle, or ligament; intravenous injection should be avoided by withdrawing the plunger before the injection is begun. If a large area is to be infiltrated, ¼- to ½-percent solution may be used, in quantities of from 50 to 150 cc. Small, very painful points should be injected with 2-percent solution. The anesthetic effect lasts for from 1 to 1½ hours, although freedom from pain may persist for hours or days thereafter, thus breaking the vicious cycle of pain, which perpetuates itself.

*Material for use in these studies was furnished by Ciba Pharmaceutical Products, Inc., Summit, N. J.

Nupercaine solution (Ciba),* 1:1000, is a longer-acting local anesthetic, which causes no toxic reaction, if not used in amounts greater than 50 cc. A slight stinging sensation is felt if it is injected into the skin, so the wheal is usually raised with procaine.

3.—*Instruments and supplies needed:* A lock syringe; needles one-half, one, and two inches in length and of 25 and 23 gage; bottles of autoclaved procaine solution (purchased ready for use from pharmaceutical houses) or medicine glasses containing boiling physiologic saline solution, to which procaine tablets are added; ampoules of 2, 5 or 25 cc. of Nupercaine; a small tray, covered with a sterile towel; several applicators and a bottle of one's favorite antiseptic, are all the equipment required.

Needles should be bent from side to side before being used; if normally flexible, they are not rusted internally and will not break off in the tissues. A stiff needle should be discarded.

Do not try to make a short needle do the work of a longer one. On one occasion, I used a one-inch needle for a back injection. The patient moved suddenly and the needle snapped off deep in the lumbar muscles. I cut down on it at once, but could not locate it without much tissue injury. The 1-inch wound was packed open with gauze and the next day the needle fragment was found lying against the gauze.

4.—*The patient's position:* Except for the most trifling injections, the patient should be kept lying down, and preferably placed so that he cannot see the needles or the actual injection. He should, of course, be warned of the initial pricking of the needle, but should not be asked repeatedly if he is suffering pain.

One patient out of four will feel as if he were going to faint, if allowed to sit up within ten minutes of the injection. If the patient is kept lying down for 15 minutes, the usual complaint if any, is merely of a "queer" sensation. If a small dose of Nembutal (¾ to 1½ gr.) is given about half an hour prior to the injection, even the most apprehensive patient will remain relaxed.

5.—*Has enough solution been injected?* The patient should assume the position or go through the motions which caused him pain previously, before one should assume that the job is completed. The pressure of the solution may temporarily numb adjacent painful areas. If the pain recurs before the normal fading of anesthesia (in 1 hour or less), one may be sure that the trigger point was not completely anesthetized.

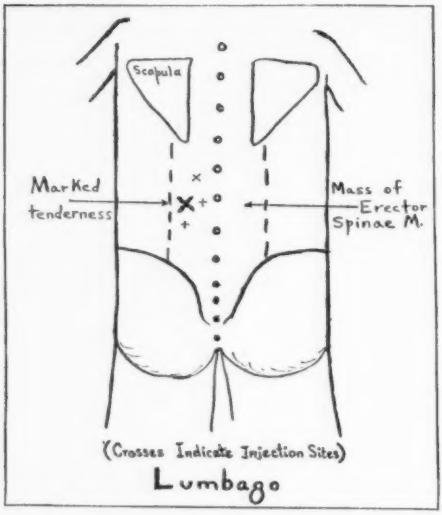
6.—*How many injections are needed?* If definite, complete relief is obtained, the patient should be encouraged to return the next day, or when the pain recurs, for another injection. One or two injections are often curative; if three or four injections are not producing longer and longer pain-free periods, one should restudy the patient for systemic causes of pain and for central nervous system disease or tumor.

7.—*What should the patient be told?* The patient should be told that there will be freedom from pain for some hours; that there will usually be some return of pain, which does not last long; and then a period of little or no pain. He should be given two or three capsules containing Dover's compound*, with morphine sulphate tablets ⅛ grain, to take in case the recurrence is troublesome.

*Aspirin (acetosal), 3 grains; Dover's powder, ¼ grain (opium, 1/40 grain); acetphenetidin, 1½ grains; caffeine, ¼ grain.

If he is apprehensive, a ¾ grain Nembutal capsule, with the same dose of morphine, should be given. "Aching" discomfort may be present for a day or two and then entirely disappear, never to return. The point of injection is usually tender to direct pressure for several days. In some cases, the pain never returns.

8.—*Should epinephrin be used?* Adrenalin (epinephrin) is advantageous, because it aids in holding the anesthetic in the tissues, but its disadvantages are that many patients complain of nervousness and tachycardia (the cause of the frequent complaint that the patient cannot take Novocain); a hyperthyroid condition may be aggravated; and that epinephrin causes vasoconstriction, which may be painful.



Contraindications and Reactions

The neurasthenic patient, with multiple pains, is rarely relieved by injection therapy and should not be treated unless a definite area of wincing tenderness is found. Patients with chronic ailments may be safely treated if they are prepared, with Nembutal, and if the injection is made gently, with the smallest possible amount of solution. Novocain allergy, workers at the Mayo Clinic say, is very rare; approximately 1 patient in 20,000 is truly sensitive to procaine itself, and such persons can be identified by the fact that the initial wheal turns red almost immediately. (Most patients show reddened areas some hours after the injection of procaine).

Syncope: The fainting reaction due to temporary vasodilatation, may be prevented by the use of a barbiturate, and should be treated by laying the patient flat on the floor or table, or better, in a slight Trendelenburg position. If the patient has gotten up without orders, and then sprawls on the floor, let him remain there and let the nurse or office girl keep herself happy by bringing aromatic spirits of ammonia or other harmless stimulant, instead of propping him up. All such patients recover, unless coronary sclerosis is present.

If intravenous injection is avoided, no other reactions will occur.

Conditions that may be treated by injection: Painful feet (bony spur, metatarsalgia, corns, bunions); painful scars and amputation stumps; lumbago and fibrositis of the back (myositis, rheumatism); sciatica, neuritis, "causalgia," intercostal neuralgia; traumatic tenosynovitis; sprains, dislocations, fractures, "tennis elbow;" pleurodynia, pleuritic pains, precordial or "heart" pain; painful shoulders (subacromial bursitis, brachial neuritis); and painful knees (osteoarthritis of the knee).

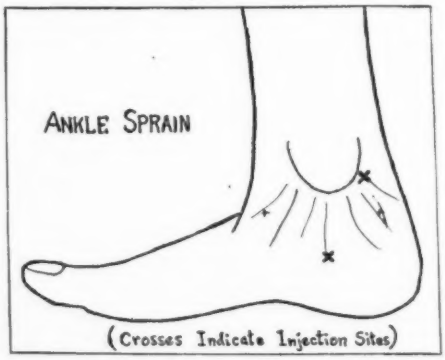
In some cases, the injection treatment alone is curative; in others, the usual treatment must be carried out after the pain is relieved. The pain resulting from a bony spur of the heel is entirely relieved without removal of the spur; while the pain of bony arthritis may be relieved by injections, yet systemic treatment must also be given.

Where possible, local infiltration has been used; also brachial plexus, sciatic nerve, epidural, wrist, and other regional nerve-blocking injections have been helpful.

Local technics

The exact methods of injecting to relieve lumbago and precordial pain are described in two previous publications.[3, 4]

Sprains: If a sprain is seen early, before much



edema has appeared, the tender areas are infiltrated with 10 cc. of 2-percent procaine solution, an elastic bandage (such as the Ace bandage) is wound snugly around the foot and leg, *from below upward,* and the patient told to return to work. There is usually some recurrence of pain, which is treated by reinjection or oral doses of morphine. Little swelling or weakness of the joint will follow, as contrasted to the usual persistent discomfort.

Even if swelling is great at the time the patient is seen, infiltration should be carried out in every tender area, until the joint can be moved in every direction without pain. The wheals should be raised with a very fine needle and care taken not to press deeply on the injured ligaments. The usual points of injection are on the periphery of the edematous areas. As soon as the pain is relieved, further swelling does not appear. The foot should be elevated, for from half an hour to an hour, before being wrapped with the elastic band-

age. A sprain seen late usually needs only the procaine injections to relieve persistent pain.

The old saying, "A sprain is worse than a break," does not apply if pain is relieved and the joint supported elastically.

Painful scars: By infiltrating painful scars with Novocain, at 3-day intervals, Leriche has completely relieved the pain of post-traumatic and postoperative scars. Neurotic women, who are always complaining of pain in their scars, may also be treated by this method, which is at once dramatic and painful. Amputation scars and painful stumps respond well to such therapy.

During the course of wound healing, Leriche and his followers have encouraged the early return of function and the formation of a flexible and painless scar by infiltrating wounds of extremities, especially of joints, fingers, and tendons.

In this connection, I have been using local procaine infiltration for all major and minor operations, whether ether was used or not. In patients whose skin, rectus muscle, and peritoneum have been injected before being incised, the postoperative course is shorter and much more comfortable. Veteran nurses are amazed at the free manner in which such patients move about in bed, at the few hypodermic injections of morphine which they require, and at the early period at which they leave the bed (from the third day on). Instead of using morphine hypodermically, it is much more direct and effective to inject procaine at the site of the pain, whenever this is practicable.

Conclusions

1. Pain is often a *disease* and must, itself, be treated.

2. The injection of a local anesthetic relieves or cures many pains in muscles and joints, such as lumbago, bursitis, osteoarthritic knees, painful shoulders, sprains, fibrositis, fracture, crushing injuries, and neuralgia.

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Reconstruction of Enlarged Breasts by Plastic Surgery

An Original Technic

By

CLIFFORD F. DOWKONTT, M.D., New York City

The psychic suffering experienced by many women who have overlarge or pendulous breasts demands relief by surgical correction, and Dr. Dowkontt here shows how this may be accomplished by one who is expert in plastic surgery.

FOUR years ago I described an original technic of operation for enlarged breasts,[1] and I shall now describe the various steps in the procedure in detail and set forth its advantages in the light of further experience gained by its use. I shall also compare it with the technics now in common use, in an endeavor to show the reasons why I consider it the method of choice. I have used this operation successfully for all degrees of prolapse and hypertrophy, with uniformly good results, and in no case was it necessary to subject the woman operated upon to more than a single operation to secure the desired amount of correction.

In evolving the various steps in technic I have endeavored (1) to cause as little disturbance of the normal anatomy of the breast as possible; (2) to see to it that there was a considerable margin of safety for the circulation of the mammary gland and the skin covering it; and (3) to restore the breast to its normal contour with the least possible scar.

I prefer Avertin as a basal anesthetic, followed in 20 minutes by ether, with nitrous oxide and ether providing a moderate depth of anesthesia for the operation, which requires two hours. In this way the patient is conscious only of falling asleep in her room, and she gradually regains consciousness an hour or more after the operation is completed.

Prior to the administration of Avertin, the area of operation is shaved, cleansed with sterile soap and alcohol, and a sterile dressing applied. When the patient is on the operating table, this is removed and the skin prepared with tincture of iodine and alcohol.

Operative Technic

The operation itself begins with the making of a small transverse nick in the skin over each breast, at the point to which the top of the areola will be transplanted. This point lies in the midclavicular line and due allowance is made for the mounding-up of the gland when placed in its new position.

An incision is then made through the skin (Fig. 1, solid line), downward from this point to the areolar border; then completely around the latter; and from its lowest point directly downward to the lower border of the breast. The skin is then reflected from the gland except above the skin-nick previously mentioned, where the layer of fat and gland tissue is retained with the skin to assist in forming the contour of the upper part of the breast.

The reduction in the size of the gland follows,

and here experience is necessary in judging the amount of tissue to be excised, for enough of the lower part of the breast must be retained to form a breast of normal size when the free edges produced by the excision have been approximated.

Two radial incisions are made through the entire thickness of the gland, from the areolar margin outward to the edge of the breast on either side, and these are connected by a short, curved incision which follows the upper part of the areolar border (Fig. 1, dotted lines). The segment of

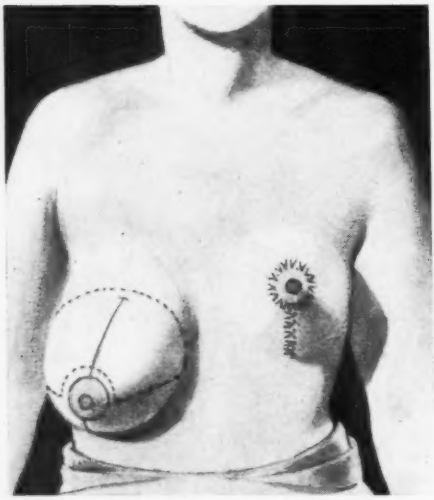

Fig. 1: Drawing showing (left) breast before operation (solid line indicates skin incision; dotted line shows incision in the gland); (right) breast after operation, showing sutures in place around the areola and on a line downward to the lower border of the breast.

breast tissue which lies within these incisions is then removed, leaving a mass of gland and the nipple with its neighboring structures intact.

A double, No. 2 chromic suture is then carried into the pectoral fascia over the third rib in the mid-clavicular line; next into the breast tissue at the outer end of one of the incisions previously described; back into the fascia; then into the tissue on the opposite side. When this suture is tied, the portion of breast which has been retained will be pulled up into the shape of a cone and will be firmly attached to the pectoral fascia at the highest point of its base. Additional sutures are then taken to approximate the free edges produced by the excision.

Next, a silk suture is introduced into the skin immediately above the nick first described, and carried through the skin of the areolar margin at its highest point. When this has been tied, the free edges of skin on either side are grasped with Allis clamps and tension created so that incisions can be made in the skin to correspond with the upper half of the areolar circumference. The edges thus produced are sutured to the areola.

The next step consists of removing the excess skin along a line beginning at the center of the lower border of the breast and extending upward to the areola. In this procedure Allis clamps are used again to make tension on the skin flaps, so that the necessary amount of excision can be made.

The final step consists of excising the tabs of excess skin on each side, and approximating the cut edges to the lower half of the areolar border. This procedure removes the excess of skin in the transverse direction, thus avoiding the necessity for a wedge-shaped excision along the lower border of the breast, with its resulting scar. In cases in which the consistency of the breast is not firm, additional sutures of No. 2 chromic gut are used to provide normal contour. These are of the purse-string type, and can be placed in the gland tissue either on the ventral or the outer surface of the breast tissue.

The operative areas are cleansed and dry gauze dressings applied and held in place with a binder. This dressing is removed in 24 hours, the incisions painted with tincture of Metaphen, and a light gauze dressing and brassiere fastened in place with adhesive straps. Most of the sutures are removed on the 9th or 10th day, but a few are left, along the areolar border, for 3 or 4 days longer.

It is my practice, when suturing, to have my assistant evert the wound edges while the knots are being tied. This, together with the use of specially treated silk and non-cutting needles, helps to produce a favorable scar with slight suture marks. Fortunately there is never any tendency for the scar to become raised or keloidal in this particular location, and it is placed so as to be covered by even the lowest-cut gown.

Comparison of Technics

In a comparative evaluation of the technic here described with that of others in common use today, it is helpful to consider the problem in its two aspects: as to what is the best method of reducing the size of the gland, and which method of excision of the skin gives the least objectionable scar.

The common technics in reducing the gland tissue follow along one of three lines: First the Biesenberger[3] excision, which involves an incision through the gland from top to bottom, avoiding the nipple area; removal of the outer half of the gland; and bending up the lower part of the remaining inner half of the breast, through a 180° arc, to meet the upper part of the gland. A second method consists of the removal of two or more wedge-shaped segments of gland tissue and suturing the free surfaces together. I have described a third method, known as the double-circle operation,[3, 4] wherein the tissue between two concentric circles is removed.

In all three methods except the last, the essential fact, that by far the greatest increase in glandular tissue is above the level of the nipple is overlooked, and it seems to me that excision in this area, as in the method here described, is the logical choice. In the Beisenberger method, considerable tortion is placed on the milk ducts as they enter the nipple, as well as on the blood vessels and lymphatic ducts, by the 180° displacement required. Also it seems to me it would be a matter of considerable difficulty to excise the correct amount of tissue and place the nipple in the exact center of the mass, in all cases.

In the method of multiple, wedge-shaped excisions, the chief objection would seem to be that it involves an unnecessary amount of surgery to accomplish what can be done by one such excision placed in the upper part of the breast, where it logically belongs.

The zonular excision of the double-circle method has several disadvantages. It must be performed

in two stages, in cases of more advanced prolapse, because the perforating vessels on the ventral surface of the gland will not carry sufficient circulation for the remaining breast tissue and nipple areas in those cases; and in cases in which the mammary gland is of less than normal thickness, the final result is a breast which is flat and without normal contour.

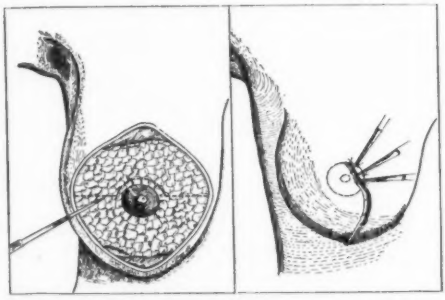

Fig. 2: (Right) Mammary gland exposed; incision indicated by dotted line; tissue above this will be excised. (Left) Skin has been sutured to the upper-inner quadrant of the areolar border, and skin from the outer part of the breast is being drawn tight to permit making an incision to fit the upper-outer areolar quadrant.

In contrast to this, the technic of the operation presented in this paper is such that the more tissue excised, the more pronounced is the cone shape of the breast when the correction is completed. I have been able to remove more than 5 pounds of excess breast tissue in one operation, without the slightest sloughing of either the gland or the nipple and areolar skin. (See Fig. 2).

In the second phase of the breast correction, the excision of excess skin, we can consider the scar, first as to its character and second as to its location. Healing along the areolar border and on a line directly downward, as in the method described in this paper, is always favorable; that is, it heals as a flat scar and is never raised or ropy. The fact, that scars in certain directions in the skin of a given area heal favorably, has been attributed, by some, to the anatomic structure of the integument. These observers state that incisions along the lines of the skin heal well; across them, unfavorably. At any rate, a scar perpendicular to the vertical scar of the method I have described does not always heal well, and the same holds true for the scar which follows the border of the lower half of the breast. That, therefore, is a distinct disadvantage in the skin closure of the two most commonly used methods, the Biesenberger inverted T[2] and the French button-holed flap method,[6] in which the scar follows the curve of the lower border of the breast.

In the matter of location, the scar in the method described in this paper has certain advantages over either of the two commonly used methods mentioned. It is the Biesenberger scar without the cross-bar of the inverted T, and it offers no difficulty in the matter of wearing low-cut gowns, as compared with the semicircular scar of the French method, which extends too high, both between the breasts and at the outside, to be covered by many costumes.

The circulation of the skin flap is of great importance in cases in which too much pressure or tension develops, as the result of swelling or infection. In the French button-holed flap technic,

Fig. 3: (Left) Breast before operation; (right) breast one month after an operation at which 5 pounds of excess tissue were removed.

it is possible, under such conditions, to lose all the skin below the level of the nipple by sloughing. On the contrary, the nutrition of the skin, in the technic described here, is adequate, even in the presence of complications.

Fig. 4: (Left) Breasts before operation involving the removal of 1¾ pounds of excess tissue; (middle) patient after operation; (right) shown wearing a bathing halter. No scar is visible, though the costume is scanty.

Summary

1.—The technic here described has been used successfully for the correction of enlarged breasts in cases of moderate or severe prolapse and hypertrophy, as well as where only one breast was enlarged.

2.—The cosmetic result is good. The normal cone-like contour is approximated.

3.—The scar is favorable, both as to its character and its location. It is smaller and more easily concealed than that of either of the two commonly used technics.

4.—There is a wide margin of safety as to the circulation of both skin and gland. In the presence of infection, there has been no loss of tissue.

5.—The excision of excess breast tissue is made in the logical area—where the increase is greatest—by excising a single mass of tissue, in contrast to the multiple excisions or the Biesenberger method.

6.—The correction is permanent, due to the suspension to the pectoral fascia.

7.—There is no interference with the function of lactation, as has been proved in an actual case reported by me.[5]

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471 Park Ave.

Causes of Cancer of the Rectum and Colon

By

CHARLES J. DRUECK, M.D., F.A.C.S., Chicago

DR. DRUECK

If we know what conditions favor the development of cancer, and what benign lesions are apt to develop malignant qualities, we are prepared to minimize or eliminate such conditions and remove such lesions, promptly and completely. Dr. Drueck gives practical and helpful pointers in this article, which should save many from a cancer death.

CANCER seems to have been with us since time immemorial, but is now more frequently encountered by the physician and is yearly increasing its harvest of human lives. In the search for its cause many weird and fantastic factors have been suggested.

> "It is not likely that tumors are caused by special agents, as is true of the infectious diseases. Neoplastic proliferation is *conditioned* by various factors, rather than directly caused by them. Furthermore, tumors should be regarded as constituting a *group* of diseases rather than an entity. There are certain predisposing factors, as well as agents, which incite conditions favorable to tumor growth, but how they operate is not definitely known."[1]

As malignant disease of the bowel always begins in the mucous membrane, the irritation to the cell may be a chemical or mechanical stimulus. This includes everything which, in less disposed subjects, is expressed in the functional, parasitic, and inflammatory diseases of the bowel.

Heredity: The claim is often made, and quite as often disputed, that cancer is an inheritable disease. True, there are families in which the same type of cancer has developed among members of each of several successive generations; but since, of all persons who reach forty years (the socalled cancer age), one of each twelve men and one of each eight women develop malignant neoplasms, practically all large families must furnish one or more cases. The importance of inheritance, therefore, is easily exaggerated. As the inherited susceptibility of the host to cancer is generally unknown, it, like diabetes, arthritis, or arteriosclerosis, seems to be an oversight on the part of the individual in selecting his grandparents.

Senility of the tissues is not a satisfactory explanation of the high incidence of cancer in the aged, since carcinogenic agents readily induce cancer in young animals. It is, rather, evidence that the long-continued action of carcinogenic stimuli is necessary to produce cancer, and that tumors which are manifested in late-middle and old age have probably had their inception some time (perhaps from 10 to 15 years) before they are sufficiently advanced to be observed; or perhaps a sort of softening process, the result of enervating changes in the habits of life, restriction of physical activities, and the adoption of diets which are unhealthful and deteriorating, lower the resistance to abnormal cell development.

Irritation: Many physicians are convinced that injury may cause tissue reactions productive of cancer, in certain persons and in susceptible tissues, under favorable circumstances. Though certain rectal lesions, such as polyps, ulcers, torn crypts, hemorrhoids, fissures, and fistulas, may not, in themselves, be primarily malignant, the implantation of infectious materials from diseased teeth, gallbladder or appendix; the chemical and mechanical irritation of chronic constipation or diarrhea; or the vitiating action of chronic infection and suppuration in neighboring abdominal and pelvic viscera, may prevent healing. This constant irritative hyperemia may be an important predisposing factor.

The intestinal tract, in spite of the gastric acidity, is the most densely populated microbic incubator known to science. Some three trillions of bacteria pass through it daily.[2] Under normal conditions, this tract, resists invasion by this microbic horde without difficulty, but certain pathogenic bacteria, notably typhoid, paratyphoid, and dysentery bacilli, and cholera vibrios, possess the power of setting up infection. Cholera vibrios, during their extraordinarily rapid multiplication, abstract large quantities of body fluids from the intestines. Dysentery bacilli, especially those of the Shiga type, produce toxins. One of these is neurotropic, the other necrotoxic. The latter is presumed to induce necrosis of the intestinal mucosa, thus opening the way for invasion by the microbes.

Recovery from infection by bacteria which incite intestinal disease may be complete or partial. In the latter event, the invaders are driven from the tissues, but they live a semi-parasitic existence, either on the mucosa of the bowel or in the gall or urinary bladder, in which condition the host becomes a *carrier*. Some of the toxin-producing anaerobes (the gas bacillus of Welch, for example) are found quite commonly in intestinal contents, where they live a parasitic existence.

Clinical and experimental data have proved that prolonged or frequently repeated trivial injuries, of a mechanical or chemical nature, may produce or stimulate cancer.

Many cancers arise in scars and in chronic ulcers. In this manner, fecal impactions, constipation, and diarrhea may become potential factors of irritation, which may be prolonged for many years. Patients with colon or rectal cancers usually give a history of chronic functional disturb-

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ances. Many an old scar continues as a demonstrable lesion because of the presence of implanted foreign material, or because of a prolonged infection.

Single injury: Many observers believe that a single injury, mild or severe, with its resulting inflammatory, exudative, and reparative processes, may directly be an etiologic factor in the production of a neoplasm, benign or malignant; but this has been widely disputed, though interesting cases of malignant growth developing at the site of a single injury have been reported. Segond[1] reported a case of a man who had a severe fall and injured the right side of the abdomen. Severe pains immediately followed. Three weeks later a laparotomy was done, and a perforated appendix and a purulent peritoneal abscess were found. Three and a half years later, the man died of cancer of the colon, as proved at autopsy.

Besides the problem of a single injury being a possible cause or a coincidence of a primary malignant tumor, it may direct our examination to the part and thus reveal an unsuspected tumor; or the tumor may be a factor in bringing about the accident; or aggravation of a pre-existing tumor may occur; or metastases may follow; or the location of a secondary metastatic growth may be determined.

Parasites: Inasmuch as tumor cells contribute nothing to the body physiology, but are an abnormal tissue growth, it has been suggested that a neoplasm is the result of a parasite introduced from without. Such infectious organisms certainly do influence the development of tumors, but this seems to be through chronic irritation or inflammation. The statement that certain houses or streets are infected with cancer cannot be supported by modern epidemiologic study.

Viruses: Cutaneous warts may be induced by a virus, and because of their physical resemblance to malignant tumors it has been deduced that cancer may be similarly transmitted, but there is no proof of this. Just how a virus affects the metabolism of the cell is not understood.

Precancerous Lesions at the Anus

Malignant disease involving or beginning at the anus is, to an exceptional degree, controllable and preventable, because it is *plainly visible*. The vast majority of precancerous lesions begin either in a pigmented mole or a senile keratosis.

The **pigmented mole** is dangerous in proportion to: (1) the amount of pigment present; (2) the degree of irritation to which it is subjected in every-day life; and (3) the evidence of recent growth. It follows that the most dangerous mole is the blue or greenish-black type (melanotic nevus). Yellowish and brownish moles are much less dangerous. The perianal mole which is constantly irritated by friction of opposed surfaces and clothing should be removed. Moles which the patient is tempted to pick or handle should likewise be removed. The flat, yellowish-brown "moth spot," with excessive growth of hair, is seldom dangerous unless irritated. Multiple small, yellowish or brownish moles are not likely to undergo malignant change.

The **senile keratosis** — a small reddish or brownish scaling spot—is the precursor of cutaneous epithelioma. It usually occurs after forty-five years of age, and is prone to become cancerous with very little warning. Therefore, it should be promptly destroyed. The warnings of malignant change are: (1) easy bleeding when the scale or crust is lifted; (2) an elevated surface or border; and (3) palpable induration or hardness of the edge or surface.

The ordinary seborrheic wart, like a drop of dirty candle-grease on the skin in older, obese persons, is not usually serious unless it is markedly pigmented, irritated, bleeding, or growing rapidly. The surface of such lesions shows follicular plugs, which identify them.

Epithelioma, basal- or squamous-celled, may originate at any point of irritation on the skin, without previous keratosis. Some persons seem especially susceptible and must be watched. Age is not trustworthy as an argument against cancer, for young persons may develop this form.

Other malignant lesions of the skin, including especially nonpigmented sarcoma and fibrosarcoma, may develop from seemingly innocent nodules anywhere in the skin. The former is especially malignant, and though rare, fatal metastasis usually occurs, as in the case of melanotic nevus, before the parent lesion shows much change. It is sound practice, therefore, completely to remove even seemingly quiescent nodules in the skin, regardless of their presumptive benign character or history.

Epithelioma, or cancer of the mucous membranes and mucocutaneous junctions, is usually squamous-celled and very malignant. For this reason, cancer should be the *first* and not the last thought when an erosion, a hard spot, or an ulcer appears on or near the anal mucous surfaces. Keratoses, crusts, fissures, and cracks, which bleed or persist, are often open to suspicion and should not be coddled along if they show signs of elevation or hardness. *Leukoplakia*—the dry, leathery, whitish or greyish patch on the mucous surfaces—is a precursor of malignant disease, in many cases, and must be watched or destroyed. Syphilis of the mucous membranes, especially gumma, quickly becomes malignant, and the mere presence of a positive Wassermann test does not show that malignancy is absent. If there is not an immediate and complete response to arsphenamine, malignancy should be suspected and investigated.

Epithelioma on both skin and mucous membrane is to be suspected (though not proved by any single point): (1) Where lesions of an erosive or ulcerative character resist cleanliness and *bland* applications (not styptics, cauterants, and escharotics); (2) when lesions bleed on very slight trauma or mere contact; (3) when hardness can be felt, either in the margin or base; (4) when there is a raised, rolled, and "pearly" or nodular border or a cauliflower growth; and (5) when adjacent glands are slightly enlarged, hard, or non-inflammatory. The fact that a lesion shows signs of healing does not disprove cancer.

Preventive Treatment

The following principles apply to the preventive management of cancer of the skin and mucous surfaces:

1. Forestall cancer by watching for and eliminating irritation, friction, and repeated injury. Remove *both cause and effect*.

2. Do not rely on the mere age of the patient for a diagnosis.

3. Be warned by bleeding, hardness, and the character of the border of a lesion.

4. Destroy the growing lesion and remove the strange nodule.

5. Always *completely* destroy or *completely* remove a lesion, if suspicion is once aroused. Never

do a halfway job. Use (1) a cautery or cautery knife; (2) electrodesiccation or coagulation; (3) total excision, plus 1 or 2. X-rays and radium are only for experts in these technics. Do *not* use (1) silver nitrate; (2) caustics; (3) iodine; (4) carbon dioxide snow; (5) a curette without following it with a cautery; (6) *small* doses of x-rays or radium.

Conclusions

In the present state of our knowledge regarding the etiology of malignant disease, it is admitted that many statements are matters of opinion and not of fact; but we have at hand sufficient information to warrant both prophylactic and remedial treatment.

Prophylactic: Patients present themselves with offensive breath, coated tongue, decayed teeth, temporal headache, constipation, or diarrhea, all of which are or may be evidences of perverted chemical changes within the digestive tract. If we allow these socalled minor disturbances to go untreated, it is probable that we may be overlooking premonitory signs of cancer.

Malignancy never develops in normal, healthy tissue, and if cancer finally appears in these inherently simple conditions, it is clear that it would not have occurred without the previous abnormality. In our study of *why* the cancer developed (and this question is constantly asked by patients), conclusive deduction is impossible if we do not know the condition of the parts prior to the development of the cancer. But we can interrupt these little, chronic irritations, once the patient has come under our observation.

Remedial: In formulating an opinion that cancer of the bowel (or, for that matter, anywhere else) may be the result of, or influenced by, the chemical and physical changes produced by the minor irritations mentioned, our conclusion as to the continued influence of these irritants should be based upon continued and sequential phases of the pathologic states, as brought out by the patient's history and the progress of the disease. That their vitiating effects become complications of the malignant process must be admitted. A day of pain, a rise of fever, the development of an abscess, or lack of appetite is always heralded by exacerbations of these disturbing, though often neglected symptoms, the correction of which will contribute much to the patient's comfort.

58 E. Washington St.

The Treatment of Hypertension

A New Approach, with Critical Laboratory Data

By

WILLIAM LEGRANDE COOPER, M.D., Los Angeles, Calif.

DR. COOPER

Hypertension is a problem that all active clinicians meet frequently, and too often without conspicuous success, so any reasonable suggestion of a solution (like this by Dr. Cooper) deserves a thorough trial, keeping careful records for reports.

THROUGH the cooperation of a number of Los Angeles physicians, our laboratory has had the opportunity to make an intensive study of the laboratory findings in 30 cases of nonrenal hypertension. The blood pressure studies were correlated with various blood chemistry determinations before and after treatment. Our observations lead us to believe that the regimen described is a valuable addition to the therapy of functional hypertension.

It is known that both the hypotensive principle extracted from liver, and the thiocyanates, will cause lowering of the blood pressure in a certain number of cases; but we have found that, when these substances are given together, the effects are prolonged and the dosage of each may be greatly decreased. In fact, a greater percentage of cases respond to the combined therapy than to either of these agents given separately. This is in harmony with the statement by Cushny[1], "The presence of another drug having the same effects in the body, increases the action of a remedy to an unexpected extent." Although our series of 30 cases is small, the results are so striking that we believe their publication at this time is not premature.

Nonrenal Hypertension

Much information on nonrenal hypertension is beginning to appear in the literature. Schroeder and Fish[2] state that an injured kidney is not the sole source of high blood pressure and that other factors are of importance in its etiology. In discussing the pathogenesis of nonrenal hypertension, Siebeck[3] says that it is now generally agreed that many disorders are associated with temporary or permanent changes in the blood pressure.

The etiology of nonrenal hypertension is not entirely obscure. The significance of the hereditary factor is recognized, as is the fact that this condition increases with age; and the frequent development of hypertension after acute infections is a matter which cannot be overlooked in considering the cause of this condition. Infection of the kidneys themselves is a common cause of hypertension, and many workers have shown that it will disappear with the clearing up of the primary pyelonephritis.

Other miscellaneous causes of nonrenal hypertension are: dysfunction of the nervous system; certain neoplasms (such as pheochromocytoma and

Wilms' tumor); endocrine hypertension, especially that which makes its appearance during the menopause; a blood pressure rise associated with obesity (which may be nonendocrine); psychic disturbances; and food allergy. In these types of hypertension, the only curative treatment is eradication of the causal factors, and a detoxifying regimen will have secondary, if any, importance.

The pressor effects of guanidine and its possible importance as a causal factor in hypertension have been discussed by many workers. In our 30 cases we made determinations of guanidine, at the same time accumulating data from 10 normal individuals to serve as controls, and an analysis of our charts of the 30 hypertension cases shows a close parallel between our findings and those reported by Andes et al.[4], in a later paper.

From these findings, I believe we can dismiss guanidine as a causal factor in hypertension.

Experiments in Renal Hypertension

In the discussion of a recent paper on hypertension by Crabtree and Chaset[5], the latter said:

> "In our study we have found severe pathologic changes (in the kidney) without finding hypertension to any extent. The reason has not been obvious, and we have come to believe that some physiologic or chemical process initiated by the kidney is probably responsible for the production of hypertension in many cases, but that equally potent forces in the body can be marshaled to combat it."

In November, 1940, Muñoz and his associates[6], of Buenos Aires, summarized the present knowledge of hypertension as follows:

> "The better understanding of the mechanism of renal hypertension may give some indications as to the treatment of this disease. This should aim at: (1) Suppressing or diminishing the secretion of renin by the kidney; (2) inhibiting the reaction of renin with the blood globulin; (3) diminishing the amount of hypertension precursor; and (4) inhibiting the action of hypertension by increasing the amount or the activity of hypertensinase or some other neutralizing agent."

In our experiments, we followed the method used by the Buenos Aires observers in recovering a hypertensive substance from the blood of animals with experimentally produced hypertension, and here are some interesting sidelights on our experiments:

If a unit equivalent of hypotensive substance (Anabolin) is mixed with the prepared hypertensin, the action of the latter will prevail in spite of the admixed hypotensive substance, and the blood pressure will rise in a normal animal within two hours after injection. But if the same amount of Anabolin is given 30 minutes *before* the hypertensin (both of them by injection), *no change in blood pressure, in a normal animal, will be noted for from 12 to 24 hours,* after which time the tension will show only a moderate rise, and then fall to normal in about 48 hours. Further, this delayed rise in blood pressure can be entirely avoided if as little as half a grain of potassium sulphocyanate is given to the animal daily, for from 8 to 10 days before the injections of Anabolin and hypertensin, respectively.

The exact mechanism of this peculiar sequence of reactions in a normal animal, involving two antagonistic organic substances and a chemical, is still one of our unsolved problems. We feel, however, that our findings open up an important avenue of investigation in the study of functional hypertension. In producing the artificial hypertension we followed the technic of Goldblatt.

Potassium Sulphocyanate in Hypertension

Normally there exists in the blood a small and variable amount of thiocyanate. The fact that it exists suggests that nature intended this substance to be present for some purpose. The average for the 10 normal persons in our series was 0.11 mg. per 100 cc. of blood. An interesting related fact is that, in our 30 hypertension cases, before treatment, the average was but 0.05 mg., with 6 of the patients' serums showing only minute traces of the thiocyanate. Ten weeks after treatment, the average thiocyanate concentration was 2.25 mg.

The hypotensive action of thiocyanates has been known for many years, but the Council on Pharmacy and Chemistry, in 1929, reported that evidence of the value of the thiocyanates was far from conclusive, and cited contraindications against their use. This position has been confirmed recently by others[8, 9] who report severe toxic reactions and hypotensive effects of insufficient permanence to be significant.

This toxicity factor now has been overcome, however, since it is known that a safe blood-thiocyanate concentration lies between 6 and 12 mg. per 100 cc. of blood. Unless the patient is especially sensitive to thiocyanates, no reaction should occur within the safety limit of concentration—15 mg. per 100 cc. Barker[10] has described a comparatively simple technic for this determination, and blood chemistry studies can be used whenever the question of toxicity arises. However, our recommended small dose of 1½ grains (96 mg.) daily, used in conjunction with the hypotensive liver principle, obviates any possible chance of thiocyanate toxicity. The safe range lies between 6 and 12 mg., but in our 30 cases the blood thiocyanate levels averaged but 2.25 mg. We depend on the *prolonged effects* of the drug, through its cumulative action and storage in the body. Possibly the adrenals are concerned, for Healy,[11] in experiments on rabbits, showed that the cut surface of the adrenal body was strongly positive for thiocyanates, and the accumulation of the drug appeared to be limited to the cortical portion of the gland very soon after its administration.

The Hypotensive Liver Principle*

Apparently the first reports concerning the hypotensive action of liver extracts were those of Macdonald[12] and James and Laughton,[13] in 1924. About the same time Major[14] was working with this idea, being mostly concerned with the isolation of a guanidine-neutralizing, blood-pressure-reducing principle from the liver. Harrower was also doing extensive work on this subject at the same time, and in 1925 announced the standardization of a stable depressor liver extract, which he believed to be a true active principle of the liver. Because the effects seemed to be brought about by intensifying the liver's anabolic functions, it was named **Anabolin.**

Anabolin is a soluble product, entirely free from protein and histamine, and is obtained by alcoholic fractionation from the liver. It is physiologically standardized so that each cc. reduces the arterial

*Note: In our experiments, the material used was supplied by The Harrower Laboratory, Inc., of Glendale, California.

tension of a 10-kg. dog by at least 12 mm. Hg. This unit of standardization is called a hypotensive unit, which is defined as the amount of Anabolin that will cause a reduction of blood pressure, in a medium-sized dog, equivalent to that caused by 0.083 cc. of a standard solution when compared at that time.

Some years after the introduction of Anabolin, workers at Tohoku Imperial University, in Japan,[15] perfected a liver fraction named Yakriton, which they specifically called the "detoxicating hormone of the liver." Yakriton appears to be practically identical with Anabolin and has been shown to inhibit toxic symptoms of heavy doses of ammonium chloride, histamine, phosphorus, phenol, chloroform, etc.

Anabolin does not have a direct action on the arterioles, such as is produced by the nitrites. The available evidence indicates that it tends to detoxify pressor substances by intrahepatic action. Among the interesting clinical reports on the use of Anabolin in hypertension are those of Flipse[16] and Willis,[17] who found it a useful adjuvant in their treatment of hypertension, especially when the pressure is at a dangerous level. These workers have also reported that Anabolin is effective in many cases in which the nitrites and related vasodilators failed to reduce the tension.

Summary of Investigation

Thirty (30) cases of hypertension were divided at random into two equal groups. The first group was treated with potassium thiocyanate, in sufficient doses to keep their blood concentrations between 6 and 12 mg. per 100 cc. After three weeks, 9 cases, or 60 percent, showed various degrees of blood pressure reduction, while the remaining 6 cases showed no improvement whatever. After three weeks more, without treatment, all cases but one returned to their original hypertensive state, with little average variation either way.

The second group was given Anabolin for three weeks, 12 hypotensive units given three times a week. At the end of the series of treatments, 5 cases (33 percent) showed various grades of blood pressure reduction. After three weeks more, all 5 cases, with slight variations, maintained this reduction. In comparison, therefore, it is evident that the thiocyanates will reduce blood pressure in about twice as many cases, but the effects are not so prolonged as in those brought about by the hypotensive liver principle.

All 30 cases were then given the combined therapy previously outlined, using 1½ grains (96 mg.) of potassium thiocyanate and 12 hypotensive units of Anabolin (1 cc.) daily, for ten days. Three weeks after completion of this regimen, 23 cases (77 percent) showed marked improvement; 3 cases (10 percent) showed from slight to moderate improvement; and 4 cases (13 percent) showed no improvement. It is now nearly two months since these readings were taken, and the blood pressures remain approximately the same.

Conclusions

1. The hypotensive action of thiocyanates has not been extensively used, because the effect is of short duration and because of toxicity. It appears that, when doses of thiocyanate far below the toxic level are used, in correlation with the hypotensive principle extracted from liver, the hypotensive effects are more prolonged. Moreover, a higher percentage of cases respond to this combined therapy than to either agent given separately.

2. The evidence from our small series suggests that guanidine is not a causal factor in nonrenal hypertension.

3. The administration of liver hypotensive substance (Anabolin), thirty minutes before the administration of hypertensin (obtained from the blood of animals with experimentally produced hypertension), delays the rise in blood pressure for from 12 to 24 hours, and when it occurs this rise is much less marked and less prolonged.

4. At no time should the blood concentration of thiocyanate be allowed to rise beyond 15 mg. per 100 cc. Our recommended small dose of 1½ grains daily would seem to obviate any possible chance of thiocyanate poisoning. In questionable cases, blood-thiocyanate determinations should be made. The possibility that some persons may be hypersensitive even to this small dose should be borne in mind, though no cases of this kind were encountered in our series.

5. Combined therapy of this kind does not, of course, do away with the need for adjuvant measures, such as a proper hygienic regimen, control of overweight, control of activity, diet, and mental assurance.

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A Living for the Doctor

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Follow-Up Work

A RELATIVELY new advertising slogan that greets us in the lay magazines declares that "Something has been added." It catches the eye and attracts attention because, in all of us, whether we recognize it or not, there is a deep and primitive desire to get *more* for the money, time, and energy we spend than we could logically expect. We are all *bargain hunters,* more or less, and this feeling is fundamental, if we accept the description of happiness as a sense of augmentation ("moreness") of the personality.

The physicians whose waiting-rooms are crowded are the ones who give their patients this sense of *moreness* — more knowledge, more sympathetic understanding, more relief of their distresses, more personal attention, and so on.

One of the ways in which the family doctor can increase this last-named sense of moreness in his patients is by means of follow-up work for which no charge is made. Such work will require no great expenditure of time or energy on the doctor's part, and, if carried out with sincerity and discretion, can be made to pay large dividends in good will—which means increased practice.

For instance: Johnnie Smith has an attack of measles and apparently makes a perfect recovery. Two or three weeks after he is is discharged, the doctor calls up Johnnie's mother (or writes her a note), suggesting that, as measles sometimes has delayed bad after effects, it will be well to bring or send the boy in for a checkup, and stating that there will be no charge for this service, as the doctor merely wants to make sure that he has done a good and thorough job of curing him.

When the boy comes in, his heart, lungs, throat, eyes, sinuses, skin, and joints should be inspected and a specimen of urine collected for analysis; or the mother can be instructed to collect it in the morning and send it by the boy, which is even better, as the whole thing can be cleared up and an opinion rendered without delay. *Records* of all such examinations should, of course, be made and carefully filed, the same as was done in the original illness.

If anything is found to be wrong, the treatment of such conditions will be on a fee basis and will offer the best prospect of success, as it would be started *early,* which is another important point.

This method can be applied, with intelligent variations, in any disorder for which a physician's services are employed, from a cut finger to a case of bilateral lobar pneumonia, and will have a valuable secondary result, in addition to the primary one. It will accustom all members of the family to the idea of going to the doctor when they *seem to be well,* in order to *remain* that way, and thus the habit of having *periodic health inventories* can be gradually established.

We will be glad to hear, in detail, from any of our readers who may now be carrying out some such procedure as this, and to publish their ideas and results for the benefit of their professional confreres all over the country.

G. B. L.

Your Insurance

PRACTICALLY all physicians carry insurance of some kind, and most of them carry several kinds, a number of which represent a considerable part of their savings, so that they are important factors in their life plans.

In these days, when the wealth of our citizens is being recklessly used as counters in the dangerous and often bloody game of personal or class power politics, it behooves us to understand our insurance contracts far better than most of us do, in order to protect ourselves and our families, as far as is possible, against the financial upheaval which now seems to be inevitable.

In such conditions, wise men will take their insurance policies, of all kinds, to their legal advisers and obtain their advice in regard to their soundness and what, if any, action should be taken to protect the interests of those insured.

If your own attorney feels that he is not qualified to advise you intelligently on insurance matters, he can, no doubt, refer you to one of the experts in this line, who are to be found in most of our larger cities.

Events are moving so rapidly, in these troubled times, that delay of a week or two may make a serious difference in your future prospects.

G. B. L.

★ Notes and Abstracts ★

The Problem of the Notarial Error

A DELINQUENT patient had given Doctor Medico a note for $75, payable at the Easy Bank; Henry Bilkins endorsed it; the patient failed to pay; the note was protested, and the protesting notary public notified Bilkins that he (the notary) had duly presented the note at the patient's residence, and that payment was refused.

"Sorry, but I'll have to look to you for payment," the doctor told Bilkins.

"The note should'a been presented at the bank where it was payable. That notary's notice isn't worth the paper it was written on, and that lets me out," Bilkins *might* have said—but *didn't*.

"If your patient don't pay inside of 3 days, I will," is what Bilkins *did* say. He repudiated his promise, and the doctor sued.

"I did not get a legal notice of dishonor," Bilkins contended, when the case came to trial.

"I admit that, but after you got the insufficient notice you promised to pay, and that waived the defect in the notice," the doctor retorted.

"Point well taken. Judgment for Doctor Medico. There's a Mississippi case reported in 111 S.W. 578 that's right in point," the Judge announced.

M. L. H.

Group Practice Not a Panacea

THERE is a vast difference between recognizing the merits of group practice and advocating it as "the only cure" for the defects of present-day medicine. Organized medicine, and most of its member-physicians, readily acknowledge the value of group service when a difficult diagnosis must be made or complicated therapeutic measures are necessary. However, very few experienced practitioners will agree that it is a panacea for all of medicine's scientific and economic ills, or even that it is necessary or desirable in the majority of cases.

In short, valuable as group practice is in certain types of cases, it is unnecessary in many others. When it comes to patients afraid to learn the truth or preferring the promises of quackery to the performance of scientific medicine, it is as impotent as any other system to effect an early diagnosis or the institution of prophylactic methods.

The prophets of group medicine command a vast amount of space in influential newspapers and magazines because of the sensational tone of their utterances. Since no comparable facilities are at its disposal, the medical profession is at a marked disadvantage in presenting its side of the issue to the public.

To overcome this handicap, the National Physicians Committee is distributing a steady flow of information about American medicine, its methods and aims, to press and radio. In spite of minor differences, this committee commands the support of an impressive number of physicians because of the excellent educational work it has done along these lines. The private practice of medicine can survive the attacks of the panacea-vendors only if it can show the public that it is alive to the needs of the times and able to supply them.—*New York Medical Week.*

Removal of Foreign Bodies from the Nose

THE removal of foreign bodies from a child's nose may be difficult and require the administration of a general anesthetic. One simple method which should be tried is that advocated by the French surgeon, Lejars, many years ago.

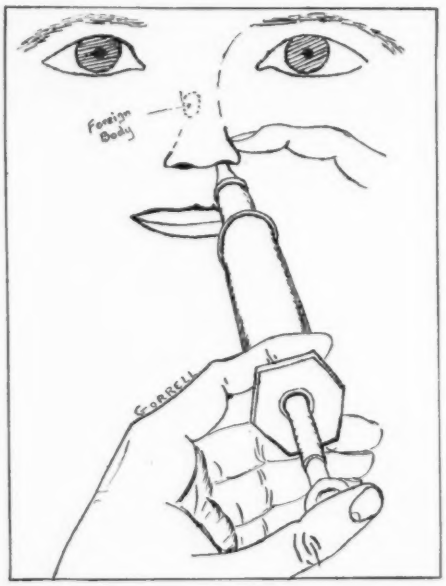


Fig. 1

A basin is placed in the child's lap or held beneath its chin, while it is sitting upright in a firm-backed chair. The child's head is held firmly between the hands of a person standing behind the chair. The physician boils a rubber-bulb or metal syringe, which has a rounded point. Boiled water, sterile physiologic saline solution, or saturated boric acid solution may be used.

The syringe tip is inserted into the nostril which does *not* contain the foreign body. The nostril is compressed tightly about the tip, so that backflow will not take place, and a steady, firm pressure applied to the syringe plunger (see Fig. 1).

As the fluid strikes the posterior nasopharyngeal wall, the soft palate is reflexly drawn up and the nasopharynx becomes a closed chamber. Any liquid injected can escape only by way of the open nostril, thus carrying with it the foreign body or loosening it so that it can readily be removed with forceps.

R. L. GORRELL, M.D.

Clarion, Ia.

The Fable of the Farmer and the Horses

ONCE upon a time a Farmer and his Horses labored on a farm. All day long the Horses worked very hard, pulling the plow and the other implements. And about all the Farmer did was to hitch up the Horses and boss them around. In this way they raised some hay, which the Horses ate, and some potatoes, which the Farmer ate.

One day a very handsome Horse, who was an aristocrat and had never plowed, came to the farm. He had a fine voice and he talked about Social Justice and the More Abundant Life. He said, "My fellow Horses, you and I know that the Farmer drives and overworks you. His harness galls your skin. You sweat on hot days, and when it is cold you shiver. He eats the potatoes which you raise. He piles your hay up in a pile with a fence around it and gives you only as much as he chooses. Come, I shall lead you and you will gain your Rights." And the Horses cheered and set upon the Farmer and drove him away, because they knew they could farm without him.

Then the Horses ate all the hay they wanted. There was so much hay in the pile that they did not mind if they trampled on it. None of the Horses was sure of how the harness went on, so they just romped and played and slept in the sun and had a fine time. They were very happy because they liked to play and eat the hay, and they praised the Leader and said that he must stay forever and lead them to Freedom and Plenty.

But it came to pass that one day there was no more hay. The Leader had borrowed much hay, but since the fields had not been tilled, no one would lend him any more. Some of the hay had been eaten, but much had been trampled down and spoiled. The Horses were very hungry and they cried to the Leader for more hay. But he had gone away to fix the fence, because he had heard that some Horses who lived far away across the sea were coming to seize the farm. The Leader did not want to lose the farm, although the fields were full of weeds and thistles.

Soon the Horses grew so very hungry that they went to find the Farmer. He was sitting with his face in his hands and felt quite without hope. The Horses said, "Sir, we have learned through hunger that we need you to harness us and show us what to do. We beg you to come back and help us, that we may raise hay and be fed again." And the Farmer gladly agreed. So they plowed under the weeds and thistles and gladly raised hay and potatoes once more. And the Farmer and the Horses knew that neither could farm without the other.—E. T. REMMEN, M.D., in *Los Angeles Med. Bull.*

When the Government Pays

THE Report of the Committee on Medical Economics should be required reading for physicians who think they would benefit by State Medicine. Because of the increasingly close economic ties between government and the doctor, the Committee has devoted considerable time to a study of the type of relationship which is developing. The conditions it discloses are a warning of what the medical man may expect if state control over practice grows.

Physicians on the WPA panel receive Federal compensation rates, which are virtually the same as the State's. In connection with these sub-standard fees, it may be observed that the physician is the only type of worker whom the state pays according to the economic status of the class served, rather than the skill and quality of the service rendered.

Other physicians working for the WPA are classified as security wage-earners and receive approximately $20 a week for thirty hours of professional service. Comparing this 67 cents hourly rate with the wages paid almost any type of skilled mechanic, one has an idea of the "economic security" the physician would enjoy under State Medicine.

Employment by other branches of government is little if any more profitable for the medical man. The New York City Department of Health pays physicians five dollars a session for what often amounts to three solid hours of work. Compared to the pay of WPA security wage-earners, this is not bad, but in the light of the length and cost of medical education and the wage scale of almost any skilled trade, it is deplorable.

The tendency of government to underpay for medical services has been marked and consistent. With the increasing trend toward State Medicine, this is a serious threat to the economic security of physicians and the attractiveness of medicine as a profession for able, ambitious men.—*New York Medical Week.*

Importance of Hospital Records

PERSONALLY, I have been somewhat surprised by the extent to which doctors leave the making of hospital records to nurses. Thereby, it seems to me, the history is too much opened to error, especially of omission. As evidence, the chart will have probative value largely in proportion as it speaks for the doctor rather than the nurse. The suggestion is, not that you should do the writing, but only that, as a matter of self-interest, the record is important to you. It is apt to be highly so if fate ever casts you for the part of defendant in a malpractice suit.—ROYAL STONE, Supreme Court of Minnesota, before the County Officer's Meeting, St. Paul, Feb. 22, 1941.

★ *Books* ★

Making Life Interesting

White

THE PSYCHOLOGY OF MAKING LIFE INTERESTING. *By* WENDELL WHITE, Ph. D., *University of Minnesota. New York: The Macmillan Company.* 1939. *Price,* $2.50.

WE all like to be interesting to other people, and it is important to us in a social and business way, as well as for our own enjoyment of life, that we should be.

Dr. White has expanded the ancient adage, "Variety is the spice of life," into a volume, by giving details of how to develop and cultivate that variety in speech, action, and thought which will make life more spicy, and therefore more interesting. Even the changing of our clothes and rearranging the furniture and pictures in our homes may add zest to otherwise flavorless existences.

Anyone who suffers from boredom or an inferiority complex ought to be able to find some helpful suggestions here, and physicians may find it wise to recommend this book to such sufferers among their patients.

The Seminar

Our readers are cordially invited to submit fully worked up problems to the Seminar and to take part in the discussions of any or all problems. Discussions should reach this office by the 5th of the month following the appearance of the problem. Send your problems and discussions to The Seminar Dept. care CLINICAL MEDICINE, Waukegan, Ill.

Problem No. 8 (Surgical)

Presented by Thomas Bryant Pope, M.D.
Kingston, W. Va.

(See CLIN. MED., Aug., 1941, p. 199)

RECAPITULATION: A 65-year-old woman, who had been weak for some time and had lost a good deal of weight, complained of fullness after eating and regurgitation of food (but no blood), without nausea, and was deaf and constipated. There was no family history of cancer, nor significant personal history; nor did she suffer pain.

Examination showed a large, irregular mass in the left upper quadrant, freely movable and only slightly tender. The only abnormal laboratory findings were: Hemoglobin, 61 percent; red cells, 3,100,000; leukocytes, 6,750, with polymorphonuclears, 63; lymphocytes, 36; and eosinophiles, 1 percent.

A roentgenogram showed a large filling defect on the greater curvature of the stomach.

Requirements: State your tentative diagnosis, *giving reasons;* what further examinations you would have made; and the treatment you would suggest.

Discussion by W. B. Palmer, M.D., Furman, Ala.

The problem that Dr. Pope offers is seemingly easy of solution. The first consideration is "the large, irregular mass in the left upper abdominal quadrant, not attached to the abdominal wall, only slightly tender." In addition "the stomach showed a large filling defect on the greater curvature." This is a description of malignant disease involving a large portion of the greater curvature of the stomach. In the absence of dysphagia we can exclude the involvement of the cardiac orifice. Regurgitation of food suggests involvement of the pylorus. Hematemesis is less frequent in cancer of the stomach than in gastric ulcer. There is no disease that results in such rapid emaciation.

The red blood corpuscles fell to 3,100,000 and hemoglobin to 61 percent. These corpuscles often fall to 1,500,000 and hemoglobin to 50 percent in the last stage.

The patient was "apparently in no pain," as is sometimes the case. Cancer per se is painless. Complications institute the pain, frequently so excruciating as to require large and frequent doses of morphine.

"There was no family history of cancer." This statement needs stressing, though what I write is seemingly a diversion. I have some complete records that show marked histories of cancer, more pronounced than diabetes was in the family reported by me. For instance, a husband and wife, related, bore children. The husband and two children developed cancer. Intermarriage was common. Two sisters of the husband had cancer, also three first cousins. Of these cousins one married and had two children to succumb from cancer. Other cases occurred. Two died from cancer of the liver. Some developed facial cancer on keratoses of the face, with subsequent prostatic invasion. Females died from cancer of the uterus or breast, one developing malignant melanosarcoma.

I have a record of another white family. The father died from cancer of the throat and the son died in middle life from cancer of the mouth. Neither smoked. A Negro woman whose blood was negative died from cancer of the uterus. Her husband who was not related to her and whose blood showed no dyscrasia, married a second time a woman not related to him. The husband, after the second marriage, came to me with a tumor of the penis that did not seem to be venereal. An expert pathologist reported cancer. His second wife developed cancer of the uterus and died. The Negro was ready for an operation but disappeared secretly from the hospital. He died subsequently from this cancer.

We must keep in mind that there may be a contact factor or tendency from inheritance or both. The rare appearance of cancer in some member of a family does not vitiate either hypothesis. Atavism is only in line with the Mendelian law, so to speak, for then hereditary tendencies come from some remote ancestor. The members of a race are so blended that we cannot prophecy what manner of offspring we shall have.

Two procedures are usually essential in the diagnosis of cancer of the stomach,—an x-ray examination by a real expert (certain in 95 percent of cases), and a gastric analysis for a diminution or absence of HCl. This is not positive but will aid, and any general practitioner should be able to do this.

Too often we ignore the statements of patients who tell us they have "indigestion." Such a symptom from a patient, more particularly from one between the cancer ages of 40 to 70 years, calls for an examination not only of the gastro-intestinal system, but of the entire body, including the nervous system. If doubtful, an exploratory operation is not dangerous in the hands of an expert. If the diagnosis of malignancy is reached, the prognosis will depend upon the type, the stage of the disease, the skill of the operator, and the anesthetic used. The surgeon, who should be a master, should be the only one to decide if a partial or total gastrectomy is essential, or some paliative operation. A 1:1500 Nupercaine, high spinal anesthesia will probably be chosen. The surgeon will find out if the lesion is leiomyosarcoma, which is milder and remains more localized than carci-

noma, hence more favorable for operation. If the lesion is carcinoma, he will keep in mind that there are two separate types, one often having severe metastatic involvement, the other merely going through the stomach walls without infiltrating the lymph nodules. This latter one and the leiomyosarcoma are favorable for total gastrectomy. If the stomach is removed, he will perform a jejunoesophageal anastomosis.

Discussion by George B. Lake, M.D. Waukegan, Ill.

One would scarcely have an ulcer of the size shown by the roentgenogram in this case without loss of blood; nor a cancer of that size without pain and *cachexia* (this woman's weakness, emaciation, and constipation could have resulted solely from regurgitation of food).

To make a diagnosis, we certainly need a complete chemical examination of the stomach contents and a test of the stool for occult blood, after several days of a meat-free diet.

This does not look to me like a case of cancer or ulcer, but of some kind of *benign* tumor of considerable size, filling the stomach to such a degree that food could not be retained, and thus resulting in semi-starvation with secondary anemia.

Before operating on this woman, I should have wanted a report of a *gastroscopy*, made by an expert. If this examination was out of the question, an exploratory laparotomy was justifiable.

Discussion by L. E. Williams, M.D., Kansas City, Mo.

The symptoms and physical findings in this case point to a lesion of the gastro-intestinal tract. The blood picture is that of secondary anemia. Hence, pernicious anemia is excluded. The regurgitation of a large amount of food over a long period of time probably accounts for the constipation and loss of weight.

The mass in the left abdominal quadrant, no doubt, is responsible for the patient's present illness. While such a mass in a patient of her age may be benign, it is more likely to be malignant. There is no history of bleeding or fainting to suggest the possibility of a perigastric mass due to a ruptured gastric ulcer, and although a mass in this vicinity may be in the omentum, pancreas, spleen or kidney, the x-rays definitely locate it in the stomach.

There has been no pain, vomiting of food or blood, all of which are common in gastric carcinoma. The patient seems to regard her illness to be of comparatively short duration. This is inconsistent with the size of the growth and her anemic and emaciated condition. Here we must not be misled, for carcinoma of the stomach may exist for a long time without causing symptoms, provided it does not encroach upon the cardia or pylorus. In this case the growth apparently began on the greater curvature of the stomach and began to give symptoms when it approached the cardia, interfering with its closure or causing dilatation of the esophagus and thereby causing regurgitation.

While further laboratory tests may be made, I am convinced that we have enough evidence in this sixty-five year old woman to warrant a tentative diagnosis of carcinoma of the stomach and to do an exploratory operation.

Solution by Dr. Pope

The patient was thought to have a cancer of the stomach, with pyloric obstruction, and operation was advised.

When the abdomen was opened, it was noted that the mass in the stomach was *motile* and was merely a *large mass of round worms* (ascarides). The abdomen was closed and the patient was given anthelmentics, which caused the passing of large numbers of round worms. She gradually regained her strength and returned to normal health.

Seminar Problem No. 10 (Diagnostic)*

Presented by R. E. Mullarkey, M.D., Seattle, Washington.

A MARRIED woman, age 36, was seen at home, at 6 A.M., complaining of nausea, vomiting, and lower abdominal pain since midnight. She had been in good health, except for nervousness, exhaustion, and marked constipation, for the past year. Laxatives were taken constantly and enemas were necessary at times. Menstruations were regular and normal; the last period had occurred one week previously.

Examination: A thin, toxic woman in obvious discomfort; temperature, 101°F.; pulse, 110; lungs, heart, ear, nose, and throat, negative; generalized lower abdominal tenderness, more marked on the left, where moderate rigidity was noted.

She was taken to the hospital and a *blood count* was made, which showed 23,000 leukocytes with 92 percent polymorphonuclear cells. *Urinalysis* was negative. Pelvic examination showed a palpable mass in the left pelvis and exquisite tenderness in the left fornix. Fecal masses were felt in the descending colon. Rectal examination showed hard feces in the rectum. Smears from the cervix and urethra were negative for the gonococcus and other pathogenic organisms. A tentative diagnosis was made of acute pelvic inflammatory disease with tubo-ovarian abscess. A soapsuds enema was given and the returns were highly colored, with a few pieces of constipated stool.

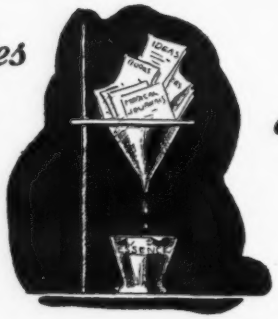
Requirements: State your diagnosis and treatment, *giving reasons.*

*Adapted from a Medical Journal.

UNIVERSITY EDUCATION

The most important feature of a university education, to the individual, is not that it may enable one to earn more money but, instead, to need less. *A person who has trained himself to intellectual companionship with the great of all ages does not need to pay for the social splashes that sometimes seem necessary in order to maintain ordinary social prestige.*—J. H. HILDEBRAND, *in* J. Assoc. Am. Med. Coll., *Nov., 1940.*

Clinical Notes and Abstracts



The Prognosis and Management of Apoplexy*

Prognosis: The severity of an apoplectic attack varies greatly, from the mildest of dizzy spells that seem to indicate merely a transient vascular spasm, to a complete loss of consciousness. *The patient almost always lives for 6 hours or more,* even with the most extensive cerebral hemorrhage and ventricular inundation, so that a stroke is a very rare cause of *sudden* death.

In general, the more violent and sudden the onset, the more probably it is due to hemorrhage and will cause death. On the other hand, hemiplegia occurring during sleep, without obvious disturbance of consciousness on awaking, is likely to be followed by rapid return of function. It is better to delay a definite prognosis until some time has elapsed. The more prolonged the period of unconsciousness, the larger the area of infarction or hemorrhage, hence the greater probability of prolonged or permanent disability. A stroke affecting the right side in a right-handed patient usually leaves some aphasia, and hence impairs his abilities. Paralysis with little or no difficulty in recognition of objects by feeling (stereognosis preserved) is a sign of good omen, while paralysis that is principally sensory is apt to leave a more useless limb.

The physician can safely assert that the patient will be able to walk but will never have a useful hand, as the leg almost always returns to function better than the arm. If *pain* appears in the paralyzed limbs, it will persist and increase. If hemianopsia can be demonstrated with the paralysis, the defects remaining are apt to be severe.

Sometimes the symptoms are those of a stroke, but paralysis does not appear. This usually means a small infarction; a patient may have a dozen of these and still be up and around, although with gradual failure of mental processes and with poor control over emotional expression and over his sphincters and swallowing. This is **"pseudobulbar palsy,"** so named because of the indistinct speech and the attacks of spasmodic crying. These patients often fall gradually into a relatively complete dementia and, postmortem, may reveal hundreds of minute infarcts scattered through the brain.

The prognosis also depends upon the patient himself; the younger the patient, and the more smoothly he has adjusted in the past, the more likely there is to be a good result. A patient who gives up easily, or one who, in the past, has reacted explosively to various situations, who fights everything, including his disease and his attendants, has a poor prognosis.

Critical periods: The first critical period occurs when the disease process is advancing and the end of it is not yet in sight; the second, when the patient realizes the nature and extent of his disability, and reacts to this knowledge with his whole personality; the third occurs, in certain instances, when the thrombosis or hemorrhage may recur. One does not breathe easily, in most cases, until two weeks have elapsed, and even after that there may be extension of the lesion, with increased disability.

The patient should stay in bed *one week for each hour of unconsciousness,* and his adjustment to his situation should be discussed in as tactful and helpful a manner as possible.

Clinical course: Cerebral hemorrhage, although *much less common,* is more serious than cerebral thrombosis, but an exact differential diagnosis often cannot be made until the clinical course can be plotted.

In the usual case, we are confronted with an unconscious patient, breathing stertorously, whose extremities are cold, who is covered with sweat, and who may have vomited or had an involuntary evacuation.

Treatment: During the period of shock, the patient should be *moved as little as possible.* Oxygen inhalation is useful; *stimulants are worthless.* The head should be kept low, and the feet warm. The condition is one of shock, and should be treated as such. When the shock passes off, the peripheral circulation returns, the face flushes, and the pulse becomes full and bounding.

Neurologic examination at this time may show:

1.—The patient "looking toward his lesion" (the eyes deviated away from the paralyzed side toward the side of hemorrhage);

2.—Inequality of the pupils, with sluggish reactions;

3.—The side of paralysis is determined by (a)

*Med. Ann. Dist. Col., Mar., 1941.

pressing over the styloid processes (below the mastoid process) bilaterally, whereupon the patient will wince when pressure is made on the *unaffected* side; or by (b) lifting the arms and noting which one drops inertly;

4.—One leg with absent patellar and Achilles reflexes and a positive Babinski sign, which indicates that the lesion is in the *opposite* cerebral hemisphere;

5.—*Increased* spinal fluid pressure, *signifying hemorrhage*, or *lowered* spinal fluid pressure, *signifying thrombosis*. Blood in the spinal fluid indicates hemorrhage; tests for syphilis should be carried out.

The blood-cell count usually shows *leukocytosis*, possibly as high as 15,000 to 18,000, but in rare instances luekopenia may be found. *Moderate albuminuria and glycosuria are not of diagnostic significance.*

Nursing instructions: (1) *Absolute rest;* (2) exclude wellmeaning friends and relatives; (3) keep the rooms darkened; (4) answer the patient's questions in a soothing manner and do not arouse him to reply; (5) gently massage his limbs, unless it is disturbing to him; (6) change the patient's position frequently after the first few days, to keep the skin in good condition; (7) treat the tongue and mouth with half-strength saline solution; (8) a water bottle with a gauze wick leading down into the patient's mouth delivers water sufficiently slowly so that the occasional reflex swallowing will take care of his needs, true dehydration being treated by subcutaneous infusion of fluids. From 1,500 to 2,000 cc. of 5-percent dextrose in physiologic saline solution may be given daily until the patient is able to swallow. Dehydration must be watched for.

Blood transfusion is sometimes a life-saving measure, in severely affected patients whose cerebral irrigation is breaking down both from cerebral edema and from blood concentration. Oxygen, given by mask or tube, is indicated for cyanosis and for Cheyne-Stokes respiration. Morphine is *contraindicated*, on account of its depressing effect on respiration. Phenobarbital is probably the best drug to combat restlessness and convulsions, and may be given up to 0.5 Gm. (7¼ gr.) in 24 hours, preferably hypodermically, when the occasion warrants.

WALTER FREEMAN, M.D.

Washington, D.C.

Pernicious Vomiting of Pregnancy

PATIENTS who die of pernicious vomiting of pregnancy usually show the pathologic changes of *starvation*. Since beginning systematic feeding through a Levine nasal tube, no patients have died and only 3 therapeutic abortions were necessary in 115 patients.

The tube is passed through one nostril, which has been anesthetized with cocaine or Butyn solution and lubricated with a jelly, and the stomach gently washed with warm water. From 4 to 6 ounces of milk, containing 2 heaping teaspoonfuls of Harris yeast concentrate, are given through the tube, followed in an hour by from 4 to 6 ounces of orange juice sweetened with Karo corn syrup; one hour later by 6 ounces of rich eggnogg made with cream and egg; and one hour later by the milk and yeast concentrate. This routine is repeated until 14 out of 25 hours are completed. Each feeding requires 40 minutes and is given at body temperature. Thiamine hydrochoride (vitamin B_1), ascorbic acid, and liver extract are given intramuscularly.

If, in spite of these measures, with hypodermoclysis of saline solution and daily intravenous injections of dextrose solution, the pulse steadily speeds up to 110, or if the vomiting, with jaundice, is intractable, the pregnancy should be interrupted.—F. C. IRVING, M.D., in *West Va. Med. J.*, Dec., 1940.

[The nasal tube feeding may be carried out in the home, if an intelligent member of the family or practical nurse is at hand. Rectal drip can be used to supply fluid. The passage of a nasal tube is good psychic therapy for those women who are constitutionally inadequate.—ED.]

Local Use of Sex Hormones

THEORETICAL considerations seem to encourage the local application of sex hormones for sensitization of the organs which are the nervous receptors for sex stimulation; i. e., the glans of the penis and the clitoris. The sensitive nerves and their endings in these organs lie beneath the epithelium and are open to the sensitizing effect of the hormones, which may reach them in higher concentration when penetrating locally from the surface than when administered only by circulation of the blood.

Several female patients whose clitoris was anointed two to three times a week for several weeks with estrogens showed slight enlargement of the clitoris, and women with frigidity had their normal sex desire restored. Male patients whose glans penis was treated by application of androgens recorded more frequent erections and greater persistence of erections.—WALTER SCHILLER, M.D., in *J.A.M.A.*, Aug. 9, 1941.

Appendicitis in Older Persons

APPENDICITIS in persons past 40 years of age is much more serious than in younger persons, gangrene, rather than suppuration being common, as it is a vascular disease in older persons, instead of the lymphoid disease of younger patients.

Clinical picture: The patient frequently has digestive upsets with the onset. The pain may be located in the pelvis, diaphragm, or epigastrium, or may never localize. *Left-side pain* is more frequent, because distended pelvic coils of ileum are displaced upward. "The dangerous period of calm" after the appendix has ruptured or become gangrenous may last from 24 hours to a week, during which the patient may be comfortable or only slightly distressed.

Vomiting may never appear; nausea is more frequent and is often persistent; fever is absent or rarely over 100° F., even when peritonitis is present; the pulse rate is usually less than 100.

Signs: The patient may not look sick; rigidity is often absent; and leukocytosis is absent in one-half of the cases. *Uniform, soft distention* of the abdomen is often found. Pain on pressure is frequently present.—F. F. BOYCE, M.D., in *Am. J. Dig. Dis.*, June, 1941.

Prevention of Postoperative Pneumonia

THE Trendelenburg position seems preferable immediately after an operation, if there is no contraindication from the surgical standpoint, and should be continued until cough reflexes are well established. If the position is well tolerated and purulent sputum is readily expectorated, the value of the precedure is obvious. If tracheobronchial drainage is not increased, the position should be abandoned.

Whether the patient's head is kept high or low, he should be turned from side to side every one or two hours.

Patients with a productive cough should be encouraged to expectorate voluntarily, despite the pain produced in the abdominal wound. The nurse may assist by making firm manual pressure over the region of the wound. The patient may be afraid to cough for fear of wound disruption, but actually, the wound is stronger during the first two days than during the next two, and there is less danger of disruption if the coughing is done early.

Decreased respiratory excursions should be treated by intermittent inhalations of carbon dioxide and oxygen. A face mask may be used and the gas administered every hour, during the first and second postoperative days. The gas should be given until definite hyperventilation (deep breathing) takes place. Oxygen alone should be given prophylactically to patients with emphysema, bronchitis, colds and decreased repiratory reserve. —H. G. HINSHAW, M.D. in *Surg. Clin. N. Am.*, Aug., 1940.

Intravenous Infusions*

ISOTONIC solutions, in volumes up to 3000 cc. daily, in 1000 cc. doses, at rates of injection from 20 to 50 cc. per minute, may be given without demonstrable cardiovascular changes in non-cardiac patients and cardiacs in Grades I or II compensation. In cardiac patients of Grades III or IV compensation, isotonic solutions in 1000 cc. volumes are definitely dangerous at rates of injection between 20 to 50 cc. per minute. Within four hours, the blood and plasma volumes and venous pressure return to normal levels. If dextrose is used, about twice as much fluid is eliminated in the urine as when saline solution is used.

Hypertonic dextrose solutions, in volumes up to 1000 cc., at rates of 10 to 20 cc. per minute, may safely be given to non-cardiac and cardiac patients in Grade I compensation without fear of untoward cardiovascular consequences. In cardiac patients of Class II, there is some danger in the use of volumes of hypertonic fluids in these amounts and at these rates of administration. In Class III cardiac patients, about 25 percent will be precipitated into acute left or total heart failure. In Class IV compensation cardiac patients, all (100 percent) will be made worse by this volume of hypertonic solution.

In volumes of 100 to 200 cc. of strongly hypertonic solutions, about 20 percent of Grade III and half the Grade IV cardiac patients will be made worse. In volumes of 50 cc., with or without 8 grains of aminophylline, the dyspnea and pulmonary edema will be improved in all Grade IV cardiac patients.

There are no tests of cardiovascular integrity, so far as is now known, which will enable the clinician to determine beforehand if the cardiovascular system will tolerate fluid therapy. One must fall back on the clinical rule that, in the presence of definite, clinically demonstrable heart disease with a history of symptoms, past or present, fluids should be used intravenously only if indications are present, and then in as limited amounts as possible and administered very slowly.

The indiscriminate and purposeless intravenous use of fluids should be discouraged and they should be employed only when indications are clearly present. The established rules concerning the nature of the fluid, the quantity, and the speed and method of giving the fluids should be strictly adhered to.

Lastly, in the treatment of any of the signs of left-heart failure with hypertonic solutions, with or without aminophylline, amounts not to exceed 50 cc. should be used at rates not to exceed 10 cc. per minute. A violation of these fundamental principles is likely to impede the recovery of patients, and even to terminate disastrously for some patients.

FRANCIS D. MURPHY, M. D.
and
HOWARD C. CORRELL, M. D.
Milwaukee, Wis.

**Modern Concepts of Cardiovascular Disease*, Apr., 1941.

Preoperative Sedation

AN OVERDOSE of sedatives, given preoperatively, may be diagnosed *when the patient cannot identify himself* before the operation or is unable to cooperate with the surgeon during the immediate preoperative preparation. *The patient should not be helpless during the period immediately preceding the operation.* If he is in a depressed condition before the administration of the anesthetic is begun, further depression may occur from the anesthetic, and death may follow. Also, the depressing effect on respiration will often make it impossible for the anesthetist to administer enough general anesthetic to produce relaxation without producing respiratory paralysis.—L. H. MOUSEL, M.D., and J. S. LUNDY, M.D., in *Surg. Clin. N. Am.*, Aug., 1940.

Preserved Cartilage Grafts

HUMAN costal cartilage, removed at autopsy as nearly aseptically as possible, in cases where the cause of death was known and the deceased person's blood was serologically normal, and preserved in a solution of 1 part aquous Merthiolate to 4 parts of sterile physiologic salt solution, has been used in 100 plastic operations on the face, with eventual success in 94 percent of the cases, and without any complications in 81 percent.

These results compare favorably with those following the use of autogenous grafts in such cases, obviate the morbidity arising from the procuring of such grafts, and are incomparably superior to the results obtained with any other foreign substance.—DRS. CLAIRE L. STRAITH and WAYNE B. SLAUGHTER, in *J.A.M.A.*, May 3, 1941.

Simplified Blood Sedimentation Test

THE determination of the sedimentation rate of the red blood cells is such a valuable aid in diagnosis and prognosis that a simple method of making this test, in the office, should be of value to all active clinicians. We have developed such a method at our Institution, and hope it will be helpful to many.

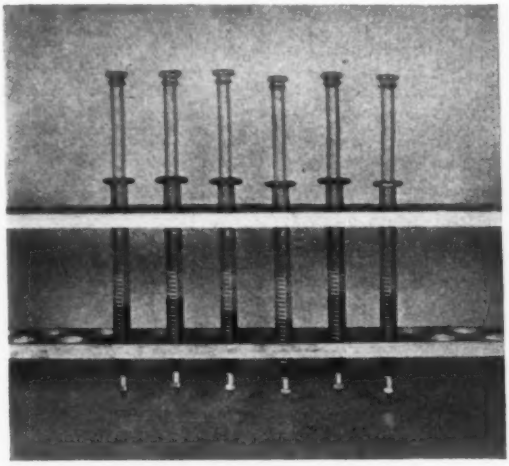


Fig. 1: Syringes in test-tube rack.

Technic: 0.2 cc. of a sterile, 3-percent solution of sodium citrate is drawn from a serum bottle with a 2 cc. *Vim Emerald* syringe,* in which the height of the blood column is exactly 5 cm., under sterile technic. The needle is then removed from the serum-bottle cap and, following a venous puncture in a suitable vein, the syringe is filled to the 2-cc. mark with blood, and removed from the vein. A bubble of air is then drawn through the needle into the syringe and, by carefully inverting this several times, the blood and citrate are mixed. The bubble is then expelled, the needle removed and replaced by a cap, and the capped syringe placed in a test-tube rack for observation (See Fig. 1). Our caps were made by breaking the needle from a discarded hypodermic needle and filling the perforation with paraffin. A 24-gauge, 1-inch needle seems best suited for use in the test.

Our readings, at the present time, are limited to a single one taken at the end of one hour, since we have not been able to obtain any additional information by the use of the curve plotted from the five-minute readings, nor have we observed any advantage in readings taken beyond the one-hour interval, as in the Westergren method.

The advantages of this simplified technic may be considered as follows: The elimination of one or more steps in the determination of the index materially reduces the time necessary for the procedure; the small amount of blood necessary (1.8 cc.) allows the use of a small hypodermic needle, which causes a minimum of discomfort to the patient and facilitates entrance to the small veins of children; a minimum of equipment is necessary and, once the syringe (which can be put to other uses in the private office) is acquired, the apparatus can be found in any physician's office, with the exception of the sterile citrate solution; the sterilization necessarily preparatory to the test is no more than is required for ordinary venipuncture; the index is determined by a single reading at the end of an hour, the apparatus requiring no attention during this time; the readings, made in percentages, may be converted into millimeters, as in the Cutler method, by simply dividing the percentage figure by 2.—L. D. VAN ANTWERP, M.D., in *Am. Rev. of Tuberc.*, Feb., 1934.

*Obtainable from the MacGregor Instrument Co., Needham, Mass.

Treatment of Burns

FOR deep or extensive burns, gentian violet (5-percent), silver nitrate (10-percent), and tannic acid (5 to 10-percent) solutions are applied, *in that order,* to produce a firm, dry coagulum, which is relatively sterile. Sepsis and pulmonary complications do not appear. *No dressings are required.* Splints should be used to ensure rest of burned limbs and to prevent contractures.—D. A. K. BLACK, M.D., in *Brit. Med. J.*, Nov. 23, 1940.

[The tannic acid does little good after the gentian violet and silver nitrate. It is not generally known that any raw area, such as that left by removing a cancer with the electro-surgical knife, is rendered painless by the use of gentian or crystal violet and silver nitrate solutions.—R. L. G.]

Control of Edema in Pregnancy

THE edema and excessive fluid retention of pregnancy can be better controlled by adequate food intake than through excessive fluid restriction. The patient is instructed to take 5 or 6 small meals daily, thus replacing some of the fluid intake with low-carbohydrate foods, and also preventing the weakness and vertigo which occur when meals are taken too far apart. The amount of salt used should be restricted.

Because the low requirement of vitamin C can be obtained readily in the form of concentrates, fruit or fruit juices should be restricted to *one* serving daily. The excessive ingestion of fruits and fruit juices, containing large amounts of fluid and sugar, is one of the most important causes of excessive gain of weight. Correction of this one dietary error eliminates this problem and aids in the control of edema.

Most pregnant women eat too little protein, and the lowered protein content of the blood also tends to increase the edema. At least 6 ounces of meat should be taken each day.—W. T. TOMPKINS, M.D. in *J. Int. Coll. Surg.*, Apr., 1941.

[This work is especially important, as we know that the overweight, edematous patient is more likely to have hypertension and toxemia of pregnancy.—ED.]

Differential Diagnosis of Angina Pectoris and Coronary Occlusion*

Condition	Angina Pectoris	Coronary Insufficiency	Coronary Occlusion	Contusion
Physiology	Temporary ischemia; decreased coronary flow; increased heart work.	Prolonged ischemia; diminished coronary flow; increased heart work.	Prolonged ischemia; Complete coronary block.	Direct or indirect trauma.
Pathology	No acute changes.	Infarction (focal, disseminated, often microscopic). No pericarditis.	Infarction (confluent, massive, through and through); pericarditis; mural thrombosis; embolism.	Myomalacia; contusion; pericarditis.
Predisposing factors	Coronary sclerosis; hypertension.	Coronary sclerosis; large heart; hypertension; aortic stenosis.	Coronary sclerosis; hypertension.	None.
Exciting cause	Exertion; excitement; eating; cold; use of insulin, adrenalin, or tobacco; trauma (?).	Exertion; excitement(?); tachycardia; shock; hemorrhage; heart failure; operation; infection; trauma.	None. (Operation ?).	Trauma.
Duration of Pain	Transitory.	Variable; often none.	Prolonged.	Variable.
Effect of Nitroglycerin	Relieved.	Not relieved.	Unaffected or increased.	Unaffected.
Shock	Absent.	Present.	Present.	Present.
Nausea, emesis	Absent.	Uncommon.	Common.	Occasional.
HEART SIGNS Sounds Failure Arrythmia	Unchanged. Absent. Absent.	Poor; gallop rhythm Present. Occasional.	Poor; gallop rhythm Present. Common.	Poor; gallop rhythm Present. Common.
Blood pressure	Same, or rises.	Falls.	Falls.	Falls.
Electrocardiogram.	Unchanged. Transient S-T depressions.	S-T depressions.	Definite pattern; S-T elevations; Q waves; reciprocal relation, leads 1 and 3.	S-T depressions (S-T elevations in pericarditis).
Lungs.	Unchanged.	Congestion, from heart failure.	Congestion, from heart failure.	Trauma to pleura and lungs.
Laboratory findings.	Normal.	Fever(?); leukocytosis(?); sedimentation rate rapid(?).	Fever; leukocytosis rapid sedimentation rate; azotemia; glycosuria.	Leukocytosis; fever.
Condition afterward.	Normal.	Recovery variable.	Prolonged illness.	Variable.

*Med. Ann. Dist. Col., Mar., 1941.

ARTHUR M. MASTER, M.D.
SIMON DACK, M.D.
HARRY L. JAFFE, M.D.
New York City.

Treatment of Dizziness (Vertigo)

SEVERE vertigo should be treated by (1) rest in bed; (2) avoidance of all movement, especially sudden movement; (3) avoidance of stimuli (sudden sounds and light); (4) elevation of the head of the bed, to prevent congestion of the labyrinth; (5) moderate-sized doses of atropine and sedatives; (6) a light, soft diet; and (7) magnesium sulphate, by mouth.

If recurring attacks of vertigo are associated with tinnitus and loss of hearing (Meniere's symptom complex), the patient is instructed to take six 7½-grain (0.48 Gm.) tablets of ammonium chloride three times daily, with meals, for 3 days; no medication is then taken for 2 days; and the tablets are repeated for 3 days. No salt is allowed at the table and very little is to be used in cooking. No sodium bicarbonate or other sodium-containing drug should be used. This treatment is kept up indefinitely.

A simpler treatment consists in the use of 50 mg. of nicotinic acid five times daily and 10 mg. of thiamin chloride (vitamin B_1) twice daily, with a diet high in proteins and vitamins. This treatment is continued until relief is obtained; the diet is continued indefinitely to prevent recurrence.

Immediate relief of severe vertigo may be obtained by injecting, intravenously, 2.75 mg. of histamine diphosphate, dissolved in 250 cc. of physiologic sodium chloride solution, given over a period of 3 hours.—K. M. SIMONTON, M.D., in *Proc. Staff Meet. Mayo Clinic*, July 23, 1941.

Venereal Lymphogranuloma

VENEREAL lymphogranuloma may heal spontaneously, the tendency to heal varying with the different types of manifestation of this disease. Buboes have by far the best chances, especially after suppuration. Established elephantiasis and rectal stricture have no tendency to spontaneous healing. In recent ulcerations, spontaneous healing occurs only rarely, except for superficial primary lesions or those accompanied by bubo. Scars may or may not be present to indicate the healed lesion. Some positive skin tests in healthy persons, who have no signs or history of venereal lymphogranuloma, may be explained by the quick and spontaneous healing of a past infection.

Chronic elephantiasis, with lymphadentitis, may develop in patients with bubo. Rectal strictures were only exceptionally seen to develop in untreated patients who have had a bubo. Correspondingly, a history of bubo was infrequently elicited in cases of rectal stricture. The development of a bubo apparently plays an active part in the prevention of late sequelae. A genital lesion of venereal lymphogranuloma may start to heal as soon as the bubo develops; whereas, in the absence of bubo, the ulcerations are resistant and, if untreated, are often followed by late manifestations. Late manifestations following bubo are more likely to occur if the bubo has not healed spontaneously. The possibility of spontaneous healing and its various aspects must be kept in mind in evaluating therapeutic measures.—ROBERT BRANDT, M.D., in *Ven. Dis. Information*, July, 1941.

Histamine Treatment of Allergy

HISTAMINE is of value in treating many allergic conditions. Studies of the histamine in the blood show that it varies widely in persons with allergic asthma and those who are hypersensitive to cold. Within 10 minutes after exposure to cold, the amount of histamine in the blood is doubled; this increased amount lessens just as quickly when the patient enters a warm room (this is true in hypersensitive persons). Histamine is *a normal constituent of the blood and all body tissues.*

Dosage: Histamine diphosphate in solution is used, with the smallest dose which does not produce allergic or distressing symptoms. One-fourth (0.25) cc., once daily, given subcutaneously, may be adequate. How long the treatment must be continued depends on the response of the patient.—B. T. HORTON, M.D., before the Polk County Medical Society, Des Moines, Iowa, Sept. 18, 1941.

Vitamin K in the Newborn

EVERY *baby has a lowered amount of prothrombin in the blood* from the time of birth until the third to fifth day, as he receives none in his diet during that time. As soon as organisms appear in his intestinal tract, vitamin K is produced by putrefaction. Liver function is completed on the fifth day; (the vitamin is also manufactured in the liver).

If the infant is fed immediately after birth, the drop in prothrombin is prevented. The earlier an infant develops a bacterial flora in the intestine, the less chance there is of developing hemorrhagic disease. If the mother is given 2,000 units of vitamin K at the onset of labor, subclinical forms of deficiency do not appear.

Many babies have melena during the first 3 days of life. Twelve (12) percent of newborn infants have retinal hemorrhages; a similar percentage have xanthochromic spinal fluid. One percent of infants dying in the first week of life have adrenal hemorrhage; and 35,000 infants die yearly from intracranial hemorrhage, due to slow, continuous oozing, although the delivery may have been easy. Most of these disorders of the clotting mechanism can be prevented by vitamin K therapy.—*Med. Annals Dist. Col.*, June, 1941.

Vaccination Technic

THE ideal site for smallpox vaccination is on the inner side of the upper arm (inner border of the belly of the biceps), because (1) the scar is not conspicuous; (2) the papule is protected from injury; and (3) there is no greater danger of infection or incapacity than when other sites are used.

Method: thoroughly cleanse the arm with acetone or alcohol, over an area two inches square; break the capillary tube and place the drop of lymph on the site; make multiple punctures (six or eight are sufficient) *through the vaccine* with a sterilized cambric needle held *parallel to the skin.* It is superfluous to make more than one wound of five millimeters in diameter. The best technic breaks the cuticle but does not bring blood. The vaccine is allowed to dry partially and then the excess is wiped off. *No dressing* is applied.—H. M. PAGE, M.D., in *Northw. Med.*, June, 1940.

Quick Fracture Union

If the roentgenogram of a fracture indicates fairly good bone texture, calcium gluconate powder should be given in doses of 1 dram (4 Gm.), thoroughly dissolved in 4 ounces of hot water, one-half hour before meals. One quart of milk should be taken daily. Such phosphorus-containing foods as liver, fish, eggs, cheese, green vegetables, and cereals should be reduced for two weeks. If the bone texture is poor or a blood-calcium determination shows a calcium content below 10 mg. per 100 cc., give 10 cc. of 10-percent calcium gluconate solution daily, intravenously, for 12 days.

Parathyroid extract is given subcutaneously, in doses of 1 cc. every third day, for from 3 to 5 doses, to help speed up calcification and to prevent "osteoporosis of disuse."

The promiscuous use of cod-liver oil, and especially of viosterol, is dangerous, as these tend to increase the blood-phosphorus concentration more rapidly than the calcium content, and thus result in non-union.

As minerals are not absorbed from an alkaline medium, it is best to give dilute hydrochloric acid (20 drops in one-half glass of fruit juice or water) before each meal, unless it causes gastric distress. This acid will also prevent calcium precipitation in the kidneys and ureters. The patient's urine should be tested with blue litmus paper, to make sure that acidity is maintained.

Thyroid extract definitely promotes healing in some cases of non-union. Hyperthyroid patients should receive small doses of Lugol's solution (10 drops daily, in milk, with a meal).

Blood chemistry determinations should be made routinely in all fractures. I have seen 1,000 fractures heal without one case of non-union or delayed union.—Charles Nelson, M.D., in *J.A.M.A.*, Jan. 18, 1941.

[The wisdom of using parathyroid extract may be questioned, as it tends to cause bone decalcification. The other measures seem good. Ed.]

Belladonna and Benzedrine in Parkinsonism

By combining belladonna root and Benzedrine, best results are obtained in parkinsonism. Rabellon (a synthetic combination containing the same concentration of alkaloid as the Bulgarian belladonna root) is given in increasing doses until the optimal level is established for the individual patient. One-fourth (¼) of a tablet is given once a day for several days, then twice daily, then three times daily; and then half a tablet is given three times daily, and so on.

The patient is instructed to eliminate all alcohol, coffee, and nicotine, and to avoid meats, particularly spiced meats. The appearance of mild toxic reactions indicates that the best dose has been exceeded.

After being maintained on a satisfactory dose of belladonna, for several weeks, Benzedrine (amphetamine) sulfate is given, in 5 mg. doses, in the morning and at noon, and the dose is increased, at weekly intervals, by 5 mg. until the maximal of from 30 to 40 mg. is reached. The dose of belladonna is decreased as the Benzedrine dose is increased.—E. Davidoff, M.D., in *A. J. Psychiat.*, Nov., 1940.

Acidosis in Children

Acidosis is a symptom of many conditions, notably diabetic coma and intestinal intoxications. The most dependable symptom is *deep breathing*; in advanced conditions, it is deep, rapid, and pauseless. The urine shows acetone and diacetic acid; in diabetic coma, glycosuria.

Treatment: Body fluids should be replaced by the intravenous injection of dextrose in a physiological solution of sodium chloride; diabetic patients should be treated by intramuscular injections of insulin (1.5 units per kilogram of body weight, plus 1 unit for each gram of sugar administered), and Ringer's, or saline solution, intravenously, with 5 percent dextrose.—J. Brenneman, M.D., in *J.A.M.A.*, Mar. 16, 1940.

The Use of Digitalis

Only 1 cardiac patient in 7 needs digitalis. It should be used in cases of heart failure:

1.—Right ventricular failure, due to inability of the right ventricle to drain the systemic veins completely, manifested by: (a) Edema, general; (b) serous effusions (ascites, hydrothorax); (c) enlarged liver; and (d) distended neck veins.

2.—Left ventricular failure, due to inability of left ventricle to drain the pulmonary veins completely, shown by: (a) Dyspnea and orthopnea; (b) pulmonary râles, due to pulmonary edema; and (c) cardiac asthma (recurring paroxysms of pulmonary edema).

3.—Combined heart failure of the right and left ventricles is the most common finding.

There is no contraindication to the use of digitalis in any case of myocardial failure, regardless of hypertension, coronary sclerosis, rheumatic carditis, or diphtheria.

Digitalis is effective in some rhythmic disorders (auricular fibrillation or flutter, paroxysmal tachycardia, premature contractions) and occasionally in heart block with convulsive (Adams-Stokes) attacks.

Dosage: Give 5 grains (325 mg.) every 6 to 8 hours until a dose of 25 grains has been reached, or nausea produced.—H. Gold, M.D., in *Med. Ann. Dist. Col.*, Apr., 1941.

Flat-Foot

Flat-foot is not due to strength or weakness of the foot and leg muscles. A young man whose sciatic nerve had been cut three and one-half years previously, and whose right foot was paralyzed, could walk unaided and without support; no flat-foot developed in that time. A girl of nine, whose leg muscles were unusually well developed by four years of ballet training, had the same degree of pronation as the average child of her age. Many other cases proved that muscular function has little to do with flat-foot, and that *exercises will neither cure nor prevent it.*

The presence or absence of pronation is primarily dependent upon the maintenance of a parallel between the axis of weight bearing of the os calcis and that of the tibia.—R. P. Schwartz, M.D., in *N.Y.S.J.M.*, Mar. 1, 1941.

Diagnostic Pointers

Prognosis in Poliomyelitis

● The prognosis in poliomyelitis is more favorable in children under three years and in adolescents over fifteen years. Early diagnosis and *prompt and repeated injections of large, concentrated, potent doses of convalescent serum, intravenously,* should be our objective.—*Am. J. Surg.*, Aug., 1941.

Detecting Cancer Metastases

● Long before roentgenograms show cancer metastases in the spine, three tests will give the diagnosis: (1) *Nerve-root pain* similar to but not *exactly* like that of spinal arthritis; (2) speeding up of the *sedimentation rate;* and (3) an increase in the *blood phosphatase.*—SAMUEL A. WOLFSON, *et al,* in *J. A. M. A.*, Mar. 15, 1941.

Hypertension and Pyelonephritis

● Hypertension may be the result of unilateral atrophic pyelonephritis, and may be cured by nephrectomy. On x-ray examination, the kidney is small and atrophic.—F. S. PATCH, M.D., in *Canad. M. A. J.*, Nov., 1940.

[Workers at the Mayo clinic, notably Braasch, report that atrophic pyelonephritis may cause high blood pressure, and report a number of cures following removal of the affected kidney. *Any patient with hypertension should have a careful roentgenographic dye study of the kidneys,* if other causes cannot be found.—ED.]

Appendicitis

● A gas-filled, palpable cecum is an important finding in acute appendicitis, but usually can be detected only by the first physician who examines the patient. As soon as one begins deep palpation over the cecal area, this gas will pass off and, many times, especially in retrocecal appendices, the patients will immediately experience less tenderness.—C. G. OCHSNER, M.D., in *Minn. Med.*, Apr., 1941.

Diabetic "Neuritis"

● Pain in the extremities is common in diabetic patients, and is generally due to arterial and venous circulatory disturbances, arthritis, myositis, mechanical and fatigue phenomena, and to vitamin B_1 deficiency. *Signs:* Tenderness of the calf muscles, plantar hyperesthesia, and loss of ankle jerks are signs of vitamin B deficiency. *Treatment:* Oral administration of 10 mg. of thiamin chloride daily, for from 8 to 12 weeks.—HARRY FEIN, M.D., in *J.A.M.A.*, Dec. 7, 1940.

Early Diagnosis of Cancer of the Colon

● These manifestations should be considered as indications for complete examination of the rectum and colon: (1) A change in regular bowel habits to diarrhea or constipation; (2) passage of blood; (3) abdominal pain; (4) unexplained anemia; and (5) a palpable abdominal tumor.

The change in bowel habits is the most frequent early symptom. Diarrhea or increasing constipation may be present. *Diarrhea may be the only symptom of a rectal cancer; increasing constipation the only symptom of a descending colon carcinoma.* To be significant, the change to constipation should be more recent than that observed in chronic constipation, or the diarrhea of longer duration than that observed in acute gastrointestinal disorders.—P. R. IMES, M.D., in *South. M. J.*, May, 1941.

Aniseikonia

● Unequal images registered by the two eyes (aniseikonia) is the basic cause of 2 percent of cases of eyestrain, and is *made worse* by ordinary lenses. At present, the only places where it can be accurately tested and corrected by special lenses are Dartmouth Eye Institute and special clinics in Boston, New York, St. Louis, and Baltimore.—ALBERT E. WIGGAM, in *Think*, Mar., 1941.

Tuberculin Test

● If a person has had a large number of tubercle bacilli in his body, or if there are subsequent exogenous re-infections, he will probably remain tuberculin-positive always. If the initial dose of bacilli was not large and there are no subsequent re-infections from other persons (exogenous), it is possible for these bacilli to die and become encapsulated, so that no tubercle protein is fed into the blood stream and no anti-bodies are produced. School children's tests become negative at the rate of five percent a year.—C. NORTHROP, M.D., in *Journal-Lancet*, May, 1941.

Early Diagnosis of Shock

● Red blood-cell counts, if taken repeatedly, will show an increasing number of cells if shock is impending. Concentration of the blood appears *early* in shock. Other early signs are: (1) collapse of the superficial veins; (2) weak pulse; and (3) increasingly fast, shallow respirations.—C. W. MAYO, M.D., in *Surg. Clin. N. Am.*, Aug., 1940.

Cranial Injury in the Newborn

● If the *sucking instinct* is lost, in a newborn infant, or fails to appear, suspect intracranial birth injury and look for other signs.—ERNEST C. DAY, M.D., Ravenswood Hospital, Chicago, Ill.

Thumbnail Therapeutics

Sulfathiazole in Infantile Diarrhea

● Sulfathiazole cures many cases of infantile diarrhea. *Dose*: One Gm. per year of age, up to a maximum of 3 Gm., followed by the same amount, given in divided doses, each day. Normal stools appear within 3 or 4 days.—G. TAYLOR, M.D., in *J. Ped.*, Apr., 1941.

Calcium for Uterine Inertia

● The intravenous injection of calcium gluconate increases the intensity of uterine contractions and decreases the interval between contractions. It has no ill effects on mother or infant. It has no effect when a patient is not in labor. It should not be used if the pelvis is narrowed or the cervix is not well dilated.—G. D. PATTON, M.D., in *Am. J. Ob. & Gyn.*, June, 1941.

Quinine as Influenza Prophylactic

● The use of 5 gr. of quinine sulphate each morning has definite value in preventing influenza, during an epidemic.—A. G. SCHNURMAN, M.D., in *Va. Med. Month.*, June, 1941.

Sulfonamides in Actinomycosis

● *Actinomycosis should be suspected in any patient who has a persisting sinus after appendectomy.* The symptoms are: (1) pain; (2) lower abdominal masses; (3) distention; (4) emaciation; (5) fever; and, if surgery has been performed (6) a profuse discharge from the wound.

The sulfonamide treatment, which has cured 4 out of 5 such cases, must be begun early. Ten (10) grains (0.65 Gm.) of sulfanilamide and 7½ grains (0.5 Gm.) of sulfapyridine are given, in combination, four times daily.—G. C. DORLING, M.D., in *Lancet*, Dec. 7, 1940.

X-Rays in Sinusitis

● Roentgen-ray therapy gives definite symptomatic relief in acute sinusitis, the chief effect being relief of pain and headache, probably due to diminishing the engorgement of the nasal mucosa. —*Miss. Val. M. J.*, Sept., 1941.

Dangers of Atropine

● Atropine should not be used preoperatively, as it increases the viscosity of sputum and thus favors the appearance of pulmonary atelectasis. —H. C. HINSHAW, M.D., in *Surg. Clin. N. Am.*, Aug., 1940.

[Atropine has also been held responsible for socalled "ether convulsions," which are frequently fatal—ED.]

Aldarsone in Neurosyphilis

● Aldarsone (Abbott), a new, pentavalent arsenical compound, has proved to be effective in the treatment of neurosyphilis, especially of the nurovascular type. It is not contraindicated in the presence of syphilitic optic atrophy; in fact, vision improved under this treatment. Rare and mild reactions to the drug occurred. — L. SPIEGEL, M.D., in *Am. J. Syph.*, July, 1941.

Thiamine in Pregnancy Toxemia

● Some cases of pre-eclampsia respond with a rapid fall in blood pressure and decrease in albuminuria when thiamine is given orally, in doses of 4,500 units daily.—J. E. AYRE, M.D., in *Can. Med. Assoc. J.*, June, 1941.

X-Rays in Ovarian Carcinoma

● While high voltage x-ray therapy does not offer a complete cure for ovarian carcinoma, it unquestionably increases the span of life, either as a preoperative or postoperative measure.—*Miss. Val. M. J.*, Sept., 1941.

Liver Extract for Lupus Erythematosus

● From five to ten units of liver extract are injected twice weekly for lupus erythematosus. Three-fourths of the cases are cured by this safe treatment.—H. KING, M.D., in *South. Med. J.*, Apr., 1941.

Preoperative Treatment

● If an operation must be performed upon a person suffering from a cold, cold vaccine may be given, orally or by injection, to prevent secondary respiratory complications. Thick sputum may be liquefied by the administration of potassium iodide, in doses of from 20 to 40 grains (1.3 to 2.6 Gm.) or more daily, for 2 or 3 days before operation. —H. C. HINSHAW, M.D., in *Surg. Clin. N. Am.*, Aug., 1940.

Vitamin C in Gingivitis

● Painful and bleeding gums may be treated with 300 mg. of ascorbic acid (vitamin C) daily. A total dose of 2,000 mg. usually causes a clearing of the gums. A maintenance dose of 100 mg. a day is then given.—H. G. CAMPBELL, M.D., in *Brit. Med. J.*, Mar. 8, 1941.

THE DOCTOR'S STUDY

New Books

Any book reviewed in these columns will be procured for our readers if the order, addressed to CLINICAL MEDICINE, Waukegan, Ill., is accompanied by a check for the published price of the book.

Books open the door to all the arts and sciences.—PETRARCH.

Communicable Diseases

Top

HANDBOOK OF COMMUNICABLE DISEASES. *By Franklin H. Top, A.B., M.D., M.P.H., Director, Division of Communicable Diseases, Herman Kiefer Hospital and Detroit Department of Health; Associate Professor of Preventive Medicine and Public Health, Wayne University College of Medicine; etc., 73 text illustrations; 10 color plates. St. Louis: The C. V. Mosby Company. 1941. Price, $7.50.*

WITH this handbook, one may feel well equipped to diagnose and treat scarlet fever, measles, and other communicable diseases encountered in general practice. The clear black-and-white illustrations and striking and life-like colored photographs have great teaching value.

The author presents his material under separate headings, so that information on diagnosis, differential diagnosis, treatment, or etiology can be quickly located. Only positive points of diagnosis are mentioned and disproved material is not permitted to encumber the pages.

The diseases are grouped under portals of entry, a novel method of classification which may permit a more ready remembrance of the point of invasion.

Contributors have collaborated on leprosy, nursing care in the home and hospital, tuberculosis, pneumococcic pneumonia, gonorrhea, syphilis, chancroid, and lymphogranuloma.

Applied Pathologic Chemistry

Andes and Eaton

SYNOPSIS OF APPLIED PATHOLOGICAL CHEMISTRY. *By Jerome E. Andes, M.S., Ph.D., M.D., F.A.C.P., Director, Department of Health, University of Arizona; Formerly, Assistant Professor of Pathology and Clinical Pathology, West Virginia University Medical School, and A. G. Eaton, B.S., M.A., Ph.D., Assistant Professor of Physiology, Louisiana State University School of Medicine. 23 illustrations. St. Louis: The C. V. Mosby Company. 1941. Price, $4.00.*

MOSBY'S series of handbooks on various phases of medicine and surgery have been definitely usable, and this volume is unusually helpful because the clinical importance of each topic is brought out in a few helpful pages, followed by brief but complete descriptions of the most readily performed urine, gastric, blood chemistry, and other tests, making a clinical and laboratory text which may be referred to in the office or small laboratory.

Helpful tables are enclosed, one of which lists the various diseases in which blood chemistry studies are helpful in diagnosis and treatment; another the normal standards for blood constituents.

Cardiac Clinics

Willius

CARDIAC CLINICS; A Mayo Clinic Monograph. *By Fredrick A. Willius, B.S., M.D., M.S. in Med., Professor of Medicine, Mayo Foundation for Medical Education and Research, Graduate School, University of Minnesota, Rochester, Minn. etc. St. Louis: The C. V. Mosby Company. 1941. Price, $4.00.*

THESE short, informal discussions on problems of heart disease and their management have been appearing in the *Proceedings of the Staff Meetings of the Mayo Clinic* for three years. Each essay can be read in 10 minutes or less. Most of them discuss common cardiac diseases or therapeutic difficulties. The author understands the problems of the general practitioner, who cannot know every field in detail, yet must treat or refer patients with all types of heart conditions.

Epilepsy and Migraine

Lennox

SCIENCE AND SEIZURES; New Light on Epilepsy and Migraine. *By William Gordon Lennox, M.D., Sc.D. (Hon.), Assistant Professor of Neurology, Harvard University Medical School, etc. 10 illustrations. New York: Harper & Brothers, Price, $2.00.*

THIS well-printed book is written for laymen by an authority on the subject. It is readable enough to be enjoyed by the average lay person, especially if he is interested in the subject, yet the scientific facts concerning migraine and epilepsy are given, including electroencephalography, the use of Dilantin, and the dangers of drug treatment without medical supervision.

This volume should be helpful to the physician in spreading information about a disease which is often discussed in low tones, and in inculcating optimism in those affected.

Ophthalmic Surgery

Spaeth

PRINCIPLES AND PRACTICE OF OPHTHALMIC SURGERY. *By* EDMUND B. SPAETH, M.D., *Professor of Ophthalmology in the Graduate School of Medicine of the University of Pennsylvania, Philadelphia; Attending Surgeon, Wills Hospital, etc. Second Edition. Philadelphia: Lea & Febiger. 1941. Price, $10.00.*

THIS book deals, not only with operative technic, but with the whole background of surgical aspects of ophthalmology. It is probably the most extensive and exhaustive

work in this field in English, and covers everything from reconstruction surgery of the orbit, through plastic surgery of the lids, to all the operations on the globe. The numerous illustrations are particularly clarifying, especially those describing individual maneuvers during certain intraocular technics. To the practitioner of limited experience, the book is of exceptional value, and it can be recommended to the experienced surgeon as an up to date guide and an indispensable reference work. This second edition has been thoroughly revised and considerably enlarged, including many new illustrations.

Bacteriology for Laymen

Allen, Holtman, McBee

MICROBES WHICH HELP OR DESTROY US. *By Paul W. Allen, Ph.D., Professor of Bacteriology, University of Tennessee; D. Frank Holtman, Ph.D., Associate Professor of Bacteriology, University of Tennessee; and Louise Allen McBee, M.S., Formerly Assistant in Bacteriology, University of Tennessee. St. Louis: The C. V. Mosby Company. 1941. Price, $3.50.*

THIS book was written for the layman and student nurse. It is interestingly made up of historical bits concerning the origin and study of disease; important points about illnesses which the public rarely knows; photographs of microorganisms; commonsense statements about prevention of disease; and related subjects.

With such a tremendous field to cover, it would be almost impossible to avoid a few minor errors, but, in general, the statements made are sound and authoritative.

Trauma and Disease

Brahdy and Kahn

TRAUMA AND DISEASE. *Edited by Leopold Brahdy, B.S., M.D., Physician in Charge, Occupational Diseases and Injuries, Corporation Counsel of New York City; Lecturer in Radiology, New York University Medical School, and Samuel Kahn, B.S., M.D., Medical Examiner, Workmen's Compensation Bureau, Department of Labor, State of New York. Second Edition. Philadelphia: Lea and Febiger. 1941. Price, $7.50.*

THE field of injury and disease has been filled with tradition, anecdotes, guesses, and old wife's tales. This text attempts to evaluate the late effects of trauma to the different organs of the body, as viewed by a number of specialists.

Obstetric and gynecologic conditions, genito-urinary diseases, gastrointestinal diseases, peripheral vascular disease, heart disease, tumors, diabetes, and septicemia, are considered. Myths which have been carried down in texts from one generation to another are exploded.

This book is of interest to physicians and surgeons, because it deals with the whole field of medicine and surgery, rather than with the narrow scope of industrial surgery or medicolegal injuries. The medical man will find it an interesting book to pick up and read in unoccupied moments, and his thinking will be clearer for such reading.

Pathology

Bell

TEXTBOOK OF PATHOLOGY. *By* E. T. BELL, M.D., *Professor of Pathology;* B. J. CLAWSON, M.D., *Professor of Pathology; and* J. S. MCCARTNEY, M.D., *Associate Professor of Pathology, University of Minnesota, Minneapolis, Minnesota. Fourth Edition, enlarged and thoroughly revised. 931 pages, 431 engravings, and 2 colored plates. Philadelphia: Lea & Febiger. 1941. Price, $9.50.*

THIS standard work has been thoroughly revised and considerably enlarged. It now offers a large amount of entirely new material, forty-one new figures, and references to the latest literature in this field. Pathologic physiology has been included in connection with the majority of diseases in which well-established data are available. Throughout, the text is brought in accord with current medical thought, but a conservative attitude toward opinions which are not yet widely accepted has been maintained.

The authors feel that clinical medicine should be considered as a direct continuation of pathologic studies, and not as an abrupt entrance into a new field. The illustrations are original, the arrangement is simple, and the subject is presented as a living science of the nature and causes of disease, on which all successful practice of medicine must ultimately be based.

Other Books Received

With Brief Descriptions

HELP YOUR DOCTOR TO HELP YOU. A Series of Books for Laymen Who Have Various Common Diseases, *by a Distinguished Editorial Staff. New York, and London: Harper and Bros., 1941. Price per Volume, 95 cents.*

These handsome, pocket-size volumes, answer, authoritatively, the questions that arise in the mind of a patient who has been told by his physician that he has a chronic disease. They can be cordially recommended or given to such patients, and should be decidedly helpful. The following titles are available, in addition to the one on "Gastric or Duodenal Ulcer," listed in the October CLIN. MED.: FOOD ALLERGY; COLITIS; MIGRAINE; GALLSTONES AND DISEASES OF THE GALLBLADDER.

A PRIMER FOR DIABETIC PATIENTS. *By* RUSSELL M. WILDER, M.D., PH.D., F.A.C.P., *Professor and Chief of the Department of Medicine of the Mayo Foundation, University of Minnesota, etc. Seventh Edition, Reset. 184 pages. Philadelphia and London: W. B. Saunders Co., 1941. Price, $1.75.*

An excellent, important, and reliable little book to give or recommend to diabetic patients, who are largely responsible for their own welfare.

PLAGUE ON US. *By* GEDDES SMITH. *New York: The Commonwealth Fund. 1941. Price, $3.00.*

A well-made illustrated book for laymen, describing the various battles in man's long and still unfinished war against pestilences.

LEADERS OF MEDICINE: BIOGRAPHICAL SKETCHES OF OUTSTANDING AMERICAN AND EUROPEAN PHYSICIANS. *By* SOLOMON R. KAGAN, M.D. *Boston: The Medico-Historical Press. 1941. Price, $3.00.*

Brief medico-historical notes, without portraits.

OUR FREEDOMS

Freedom of speech is accepted as an obligation to permit the exercises of that privilege by individuals of all classes.

Freedom of worship, under like obligations, entails similar freedom for members of every faith.

Freedom of assembly and the right to petition carry with them the obligation to allow all points of view to be heard.

Freedom of the press carries with it an obligation so profound that, as a nation, we hold it inviolate.

We have only to ponder these facts—immutable, inescapable, and forever with us—to be aware of the obligations which our freedoms and privileges have created for us in one hundred and fifty years.—THOMAS J. WATSON, *in* Think, *June, 1939.*